ADVANCED CARE PLANNING: UTILIZING PATIENT EDUCATION VIDEOS TO IMPROVE END-OF-LIFE CARE DOCUMENTATION

A DOCTOR OF NURSING PRACTICE PROJECT SUBMITTED TO THE OFFICE OF GRADUATE EDUCATION OF THE UNIVERSITY OF HAWAIʻI AT MĀNOA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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By

Mathew Bellhouse-King

Committee:

Clementina Ceria-Ulep, Chairperson
Therese Courtenay
Jane Misola

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Abstract

Introduction

Advanced care planning (ACP) is a dynamic process by which patients, their family and healthcare providers establish the values and goals of medical care and document these in the event a patient cannot communicate for themselves. The purpose of this DNP project was to expand the use of ACP education videos at Adventist Health Castle (AHC) to increase the documentation of end-of-life (EOL) decisions with the goal of aligning care to patient's explicit wishes. A literature review was conducted synthesizing available ACP research into five major themes; ACP effectiveness, decision aids, screening, video intervention and cost effectiveness. The Iowa Framework of Evidence-Based Practice to Promote Quality Care was selected to guide this DNP project (Titler et al., 2001).

Methods

The clinical question for this project was: will expanded use of evidence-based patient education ACP videos improve Providers Orders for Life-Sustaining Treatment (POLST) and advanced directive (AD) completion by 15% for adult inpatients at AHC over 4 months? The project aimed to answer the clinical question by utilizing an impact (summative) and process (formative) evaluation design. The practice change aimed to expand the use of the ACP education videos by engaging a multi-disciplinary team of health professionals. The sample population was all patients on the Laulima/telemetry unit of AHC who were screened and met criteria for ACP discussions per facility protocol.

Results

The expected outcome was to increase AD and POLST completion by 15%. Actual outcomes were a 19.8% increase in AD completion and a 7.9% increase in POLST completion.

Process evaluation results indicate staff concerns regarding the initiation of ACP conversations, including feelings of anxiety and discomfort, were sufficiently addressed during project implementation.

Discussion

The expected outcome to increase AD and POLST completion by 15% was an ambitious goal. The 19.8% increase in AD completion exceeded expectations. POLST completion increase of 7.9% was a modest but meaningful improvement. A limited implementation phase may not have provided adequate time for staff to acclimate to the psycho-social and cultural aspects involved in ACP discussions and for a sustained practice change to be demonstrated.

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Introduction

Background/Problem

Advanced care planning (ACP) is a dynamic process by which patients, their family and healthcare providers establish the values and goals of medical care and document these in the event a patient cannot communicate for themselves. Unfortunately, these discussions are often incomplete or avoided in practice. As a result, patients and families do not receive the necessary education to articulate and document care decisions, which can lead to costly and undesired interventions (Field, Fritz, Baker, Grove, & Perkins, 2014; Hickman, Keevern, & Hammes, 2015; Molloy, et al, 2000). Decision aids are used in the ACP process to facilitate conversations and document healthcare choices. Standardized ACP documents, such as state-specific Providers Orders for Life-Sustaining Treatment (POLST) and advanced directives (AD), are often used to prompt and record the results of ACP encounters (Field, Fritz, Baker, Grove, & Perkins, 2014; Hickman, Keevern, & Hammes, 2015; Molloy, et al, 2000). Adventist Health Castle (AHC) utilized Hawaii-specific POLST and AD forms in addition to a suite of research-based ACP patient educational videos to facilitate ACP discussions and encourage end-of-life (EOL) documentation. The purpose of this DNP project was to expand the use of the ACP education videos within the existing ACP program at AHC.

Conceptual Framework

The Iowa Framework of Evidence-Based Practice to Promote Quality Care was selected to guide this DNP project (Titler et al., 2001). The model utilizes a 7-step, systems-based approach, with a focus on implementing change at an organizational level.

Literature Review & Synthesis

A literature review was conducted to assess the existing state of ACP research. Databases searched included PubMed, CINAHL, the Cochrane Library and the National Guidelines Clearinghouse (NGC) and revealed a total of 324 articles, of which 21 were deemed relevant to the project. The literature was critiqued and synthesized into five major themes; ACP effectiveness, decision aids, screening, video intervention and cost effectiveness.

Innovation/Objectives

The objective of the project was to increase the documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patient's explicit wishes or "wanted care". The literature supported the expanded use of the ACP education videos at AHC to improve documentation of EOL decisions as these videos decrease use of extensive interventions, including cardiopulmonary resuscitation (CPR) and intubation while improving ACP knowledge and stability of EOL decisions (Volandes et al., 2012, 2013; El-Jawahri et al., 2010, 2015, 2016).

Methods

Design

The clinical question for this project was: will expanded use of evidence-based patient education ACP videos improve POLST and AD completion by 15% for adult inpatients at AHC over 4 months?. The project aimed to answer the clinical question by utilizing an impact (summative) evaluation design that described how ACP education videos impacted POLST and AD completion for adult inpatients at AHC. A process (formative) evaluation conducted throughout the project documented key stakeholder perception of the ACP intervention.

Practice Change Description

The practice change aimed to expand the use of the ACP education videos within the existing ACP program at AHC to increase EOL documentation by engaging a multi-disciplinary team of health professionals. The intervention addressed AHC's problem-focused triggers to improve ACP utilization and quality of care to patients.

Setting & Sample

The sample population was all patients on the Laulima/telemetry unit of AHC who were screened and met criteria for ACP discussions per facility protocol. All patients meeting criteria were offered the intervention. Patients under 18 years of age were excluded.

Data Collection

AHC collected and synthesizes the pertinent project data as part of their existing ACP program. Project implementation data was collected for four months and ACP data collection continued after implementation per facility protocol.

Results

The expected outcome was to increase AD and POLST completion by 15%. Actual outcomes were a 19.8% increase in AD completion and a 7.9% increase in POLST completion. Process evaluation results indicate staff concerns regarding the initiation of ACP conversations, including feelings of anxiety and discomfort, were sufficiently addressed during implementation.

Discussion

The expected outcome to increase AD and POLST completion by 15% was an ambitious goal. The 19.8% increase in AD completion exceeded expectations. POLST completion increase of 7.9% was a modest but meaningful improvement. A limited implementation phase may not have provided adequate time for staff to acclimate to the psycho-social and cultural aspects involved in ACP discussions and for a sustained practice change to be demonstrated.

Chapter 2. Problem

Introduction

Advanced care planning (ACP) discussions are often incomplete or avoided in practice. A patient and their family may be unwilling to discuss ACP and providers may be uncomfortable or lack time and training to initiate the ACP discussions. As a result, patients and families do not receive the necessary education to make informed decisions concerning their care, which can lead to costly and, in retrospect, undesired interventions.

At Adventist Health Castle (AHC) there was an organizational priority to address ACP as part of their mission "Living God's love by inspiring health, wholeness and hope" (Adventist Health, 2017). AHC had implemented a palliative care program and engaged in a Memorandum of Understand (MOU) with Hawaii Medical Service Association (HMSA) which made available a suite of evidence-based ACP patient educational videos to healthcare organizations in Hawaii. As an organization, there was interest to investigate the impact of ACP as a mechanism to reduce costly, undesired treatment and improve patient care. Lastly, novel research was conducted since the establishment of the facility's ACP program with updated practice guidelines available for possible integration into the AHC system.

In this chapter the Iowa Framework of Evidence-Based Practice to Promote Quality Care was selected as the conceptual model (Titler et al., 2001). The chapter outlines the project background, describing the extent of the problem and providing specific problem and knowledge-focused triggers. A literature review was conducted with a critical analysis and synthesis of results. The literature review includes a description of the search strategy, databases searched, key terms, studies yielded and those selected for review. The Mosby (2004) grading tool was used to critique the quality of evidence and is synthesized by subtopic. A summative analysis was conducted on quality, quantity and consistency of the evidence, while noting the

weaknesses, gaps and limitations in the literature. The innovations and objectives section provides an evidence-based intervention strategy and a rationale based on the critiqued evidence. Lastly, a brief synopsis of the chapter is provided including the purpose of the DNP project.

Background/Problem

Advanced care planning (ACP) is a dynamic process by which patients, their family and healthcare providers establish the values and goals of medical care and document these in the event a patient cannot communicate for themselves. The process of advanced healthcare planning was formalized in law and policy beginning in the 1960's and has developed significantly during the intervening years (Sabatino, 2010).

The need for ACP was initially framed as a legal transactional approach that highlighted the right of a patient to consent to and refuse treatment (Sabatino, 2010). These rights were traditionally articulated in statute represented by legal documents called advanced directives (AD) such as a living will or durable power of attorney for healthcare. The United States (U.S.) Congress encouraged the use of AD as part of the Patient Self-Determination Act (PSDA) of 1990 (Act of 1990, Pub. L. No. 101-508). This law provided financial incentives to healthcare facilities and providers to develop programs informing patients of their healthcare rights under state law, including their right to refuse medical treatment and right to an AD (Detering, & Silveira, 2016). There was a growing recognition that there needed to be a bridge between the legal documents and clinical practice. This represents a gradual paradigm shift toward a more flexible ACP communication approach which seeks to assure patient needs and goals are clearly articulated, easily accessible to healthcare professionals across settings, and exist as a portable medical order (Detering, & Silveira, 2016).

As a result of the evolving journey towards ACP, Oregon developed the first Physician Orders for Life-Sustaining Treatment (POLST) in the early 1990s. This protocol continued to

grow, adopted by numerous states, and is referred to by many names including MOLST (Medical Orders for Life-sustaining Treatment) and COLST (Clinician Order for Life-Sustaining Treatment). In Hawaii, Advanced Practice Nurse Practitioners (APRNs) were authorized to sign POLST forms in 2014 through Act 154, and the "P" in POLST was transitioned from "physician" to the inclusive term "provider" (Act 154, 2014).

The National POLST Paradigm Taskforce, a coalition of POLST experts and advocates from around the country, reports on the status of POLST forms nationally. Three states are considered as mature status, with a total of 22 endorsed for POLST, 24 are developing POLST, three are non-conforming, and two have not developed POLST, which includes the District of Columbia (National POLST Paradigm, 2017). Mature states meet the highest standards set by the taskforce including 50% or more utilization of POLST in healthcare facilities and active collection of quality assurance data. These states include California, Oregon, and West Virginia. Hawaii is considered an endorsed state, which indicates we have developed and utilized a POLST form that meets the taskforce standards and legal requirements, while actively expanding implementation and collecting quality assurance metrics (National POLST Paradigm, 2017).

Although Hawaii has made progress implementing ACP and POLST, more work needs to be done as a state. It is essential that providers expand the use of ACP and POLST to ensure that Hawaii residents' healthcare needs and goals are met. AHC has an organizational priority to address ACP, through AD and POLST completion. AHC has implemented a palliative care program with a focus on ACP. As part of this process, AHC entered into an MOU with HMSA who supports access to a suite of evidence-based ACP patient educational videos for healthcare organizations in Hawaii. These videos provide plain language education about ACP that is translated into multiple Asian-Pacific languages including Hawaiian, Chuukese, Marshallese,

and Filipino. The MOU articulates certain benchmarks for use, marking a timeline for their implementation. There is urgency to guarantee these benchmarks are met on time.

In addition to meeting the requirements of the MOU, there are implications for quality of care and cost containment. Discussing end-of-life care can be a challenging task for providers and patients. The use of video-assisted support tools has been shown to be an effective resource to initiate the ACP discussion with patients and families in order to solicit their goals for care (El-Jawahri, et al., 2016). A randomized control trial found that with the use of ACP videos, patients were less likely to elect for extensive interventions, and more frequently declined cardiopulmonary resuscitation (CPR) and intubation (El-Jawahri, et al., 2016). The expanded use of ACP education videos, and increased AD and POLST form completion meets AHC's professional obligation to foster informed decision making for patients, meet their healthcare goals, and improve patient quality of care. Additionally, cost containment of undesired or futile care was an added benefit for patients and their families.

Conceptual Framework

Conceptual frameworks are useful tools to guide evidence-based practice (EBP). They organize thinking and writing, provide a systematic process for implementation, and aid in articulating the relevancy and generalizability of results. There are several well-established EBP frameworks in the literature and the selection of one is dependent on both the parameters of a project and personal preference.

The conceptual framework which aligned closest to the needs of this DNP project at AHC was the Iowa Framework of Evidence-Based Practice to Promote Quality Care (Titler et al., 2001). There are several factors which drove the selection of the Iowa model for this project. First, the model utilizes a systems based approach with a focus on implementing change at an organizational level. The Iowa model provides a clear and succinct 7-step process which includes

1. Identifying the knowledge and/or problem focused triggers, 2. Forming a team, 3. Assembling relevant research and related literature, 4. Critiquing and synthesis the research, 5. Piloting the change in practice, 6. Instituting the change in practice, and finally 7. Monitor and analyzing the structure, process and outcome data (Titler et al., 2001).

In addition to the theoretical utility of the Iowa model, it also has a history of use in Hawaii healthcare organizations. In 2008, the Hawai'i State Center for Nursing implemented an EBP initiative with the aim of improving patient safety and healthcare throughout the State. (Hawai'i State Center for Nursing, 2009). The Iowa model was selected for training and adapted to the cultural needs of Hawaii. The model is now utilized by numerous healthcare organizations throughout the State. Given the concise, systematic conceptual framework and institutional familiarity, the Iowa model was selected for this EBP project. See Figure 1 for an outline of the Iowa Model of Evidence-Based Practice.

Figure 1. *Iowa Model of Evidence-Based Practice to Promote Quality Care*

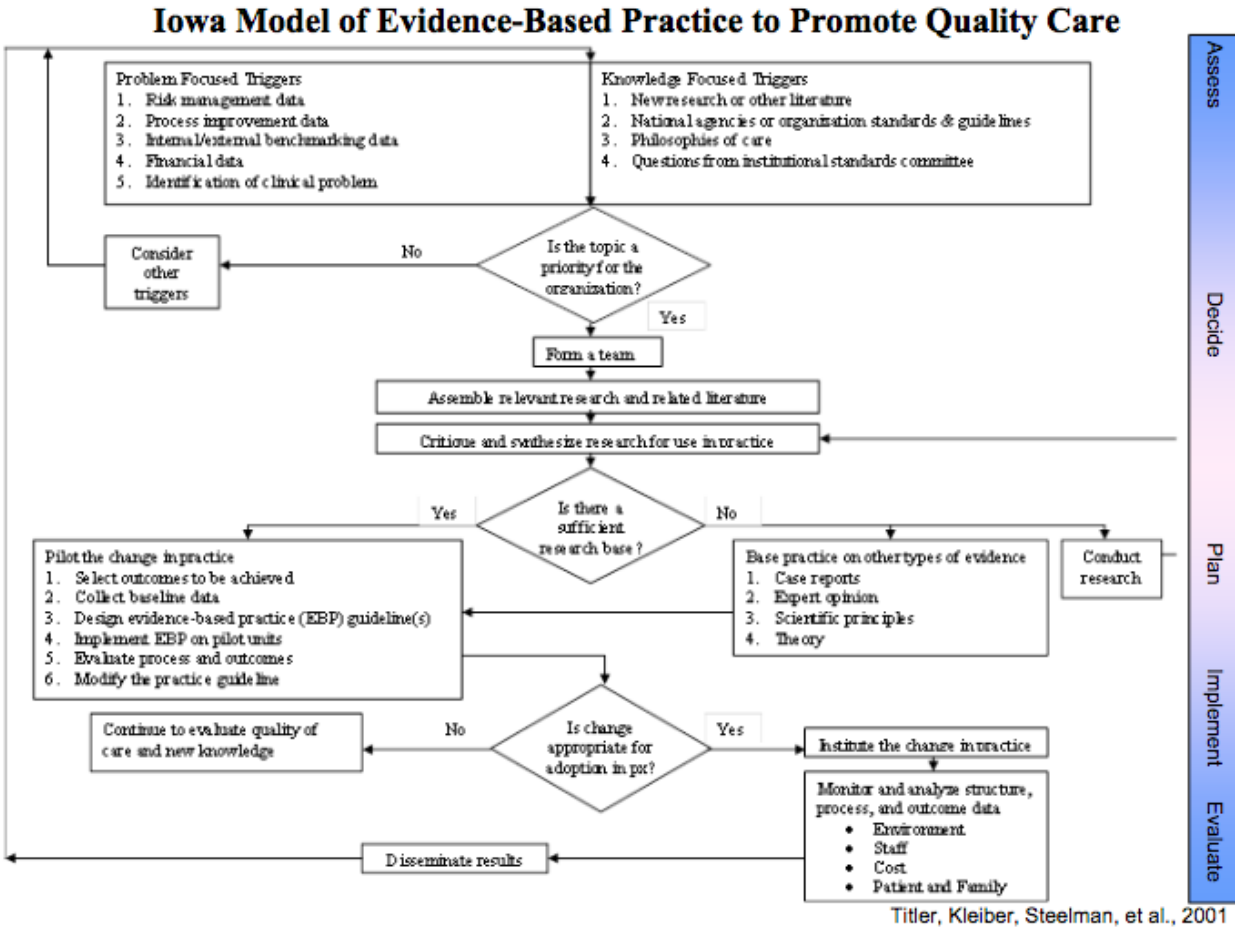


Image: http://slideplayer.com/slide/6603741/

Identifying Problem and Knowledge Focused Triggers

The first step in the Iowa model is the identification of factors which will drive an EBP. Problem-focused triggers represent a clinical problem, internal/external benchmark data or a risk management issue while knowledge-focused triggers can represent new research or guidelines produced by professional organizations (Titler et al., 2001).

At AHC problem-focused triggers included an organization priority to increase ACP utilization. This included meeting benchmarks relating to ACP videos viewed and AD and POLST completion. Knowledge-focused triggers included novel research conducted since the

establishment of the ACP program and new guidelines available from the National Guidelines Clearinghouse (NGC) which may be incorporated into AHC's organizational protocols.

Forming a Team

Unique to Iowa model is the explicit step of forming a team to guide EBP. The project team develops, implements and evaluates the EBP and is integral to the success of an intervention (Titler et al., 2001). This project was fortunate to have a dedicated team of interdisciplinary professionals committed to the expansion of ACP at AHC. Table 1 represents the members of the EBP team.

Table 1. *Evidence Based Practice (EBP) Team Members*

Role	EBP Team Member
Team Leader	DNP Student
Opinion Leader	Palliative Care Program Director
Change Champion	Palliative Care Coordinator
Mentor	Director of Inpatient Nursing Services
Users	Inpatient staff: MD/APRN, RN, Case Managers, Social Work

Assembling Relevant Research and Related Literature

A comprehensive review and synthesis of available literature is necessary to understand the complexities of a topic and propose appropriate evidence-based interventions. The search strategy for this project included the databases of PubMed, CINAHL, the Cochrane Library and the National Guidelines Clearinghouse (NGC). Search terms pertinent to the topic of interest include: "Advanced care planning", "Advanced directive", "POLST", "MOLST", "COLST", "Living will", "Video", "Cost", "Screening", "Durable power of attorney", "Code status", "Do-not-resuscitate", "Decision aid". Search parameters such as Boolean operators (AND, OR, NOT) and truncation (*) were used to modify results. Inclusion criteria included the English language, 18+ years, while exclusion criteria included child and adolescent, as adults are the population of

interest. Recognizing the iterative history of ACP, a broad publication range of 20 years (1996 to 2016) was selected to assure consideration of pertinent evidence (Sabatino, 2010). The summative results of the database search revealed a total of 324 articles. Through a review of subject headings, title and abstracts, 21 articles were deemed relevant to the project. These articles were subsequently selected for critique and synthesis.

Literature Review & Synthesis

Once pertinent articles are identified, it is critical to parse the quality of research so that accurate conclusions can be drawn from a field of evidence. A common tool used in nursing to critique evidence is the Mosby's (2004) Levels of Evidence metric. The tool uses a hierarchy of evidence represented by an inverse numerical relationship; an increasing numerical value represents a decreased quality of evidence. Level of evidence I (Level I) represents the highest level of evidence and consist of meta-analysis and systematic reviews. Level of evidence II (Level II) represents experimental design or randomized control trials (RCTs). Level of evidence III (Level III) represents quasi-experimental designs. Level of evidence IV (Level IV) represents case-controlled, cohort studies and longitudinal studies. Level of evidence V (Level V) represents correlational studies. Level of evidence VI (Level VI) represents descriptive studies, including surveys, cross-sectional design, developmental design and qualitative studies. Level of evidence VII (Level VII) represents the lowest form of numerically categorized evidence and includes expert committee reports and authority opinion. Level of evidence "Other" (Other) is not represented by a numerical value. This category consists of literature reviews, performance improvement (PI) projects, research protocols and all other forms of evidence not previously represented. This is the lowest form of evidence in the hierarchy.

The 21 articles deemed pertinent to this topic are critiqued utilizing the Mosby's (2004) Levels of Evidence tool. Results of the critique are provided below.

Table 2. *Mosby's Levels of Evidence*

Level of Evidence	Description	Articles
I	Meta-analysis or systematic reviews	8
II	Experimental design/Randomized Control Trials (RCT)	7
III	Quasi-experimental design	0
IV	Case controlled, cohort/longitudinal studies	1
V	Correlation studies	0
VI	Descriptive including surveys, cross sectional design, developmental design and qualitative studies	2
VII	Authority opinion, expert committee report	0
Other	Review of literature, performance improvement (PI)	3

Mosby (2014).

Synthesis of the articles reveals five major themes in the research; ACP effectiveness, decision aids, screening, video intervention and cost effectiveness. It is important to note that some sources of evidence are applicable to more than one theme and are thus referenced across categories.

ACP Effectiveness

The first step to investigate advanced care planning is determining the efficacy of the ACP process to produce positive outcomes for patients, families, and by proxy, the healthcare system. A review of the literature reveals four pertinent evidence sources (Three Level I, one Other: Review protocol) which indicate that structured, multimodal, evidence-based interventions are most effective to improve end-of-life (EOL) care. A systematic review by Brinkman-Stoppelenburg, Rietjens, & Van der Heide (2014, Level I) investigated the effects of ACP on EOL care, identifying 113 relevant articles, 95% of which were observational studies. Aggregated results of the review support ACP as an effective means to decrease life sustaining treatment and hospitalizations while increasing the use of hospice care. Complex ACP programs which include a combination of ongoing conversations and standardized documentation, such as

Respecting Choices©, are found to increase compliance with patients' EOL wishes (Brinkman-Stoppelenburg, Rietjens, & Van der Heide, 2014).

Another systematic review investigated what factors influenced the use of ACP across demographic categories (Lovell, & Yates, 2014, Level I). Factors associated with greater uptake of ACP include increased age, education and functional impairment as well as being Caucasian and having a malignant diagnosis. Factors found to decrease ACP utilization include being African American, a non-malignant diagnosis, uncertainty relating to ACP and its' legal status and interestingly, having dependent children. Although these were the salient categorical factors identified, the authors stressed the complex and dynamic nature of ACP discussions which are unique to each patient. As a result, the strategic use of multi-faceted interventions is recommended to accommodate a diversity of demographic and diagnostic categories and meet the goals of ACP.

The Cochrane Database of Systematic Reviews is widely considered one of the premier resources for high-quality, evidence-based healthcare information. A search of the database is included in the literature review and two records were found applicable to the topic of ACP effectiveness (Lim, et al., 2016, Level I; Houttekier, Cohen, Cools, & Deliens, 2012, Other: Review protocol). Unfortunately, both documents produced inconclusive results. The systematic review by Lim et al (2016) investigates ACP for hemodialysis patients with End-stage kidney disease (ESKD). The goal of the review was to determine if ACP results in fewer hospitalizations, less use of curative treatments and higher compliance to patients' EOL wishes. After an exhaustive search of the literature, only two RCT studies with 337 combined patients met inclusion criteria. Regrettably, the studies were determined to be suboptimal and due to the limited data quality, the results were inconclusive. An additional record from the Cochrane Database is a research protocol intended to search all available RCT's relating to ACP for EOL

care (Houttekier, Cohen, Cools, & Deliens, 2012). This protocol was never implemented and on July 1, 2014 the protocol was withdrawn from the database stating it was out of date and did not meet expected review standards.

Decision Aids

Decision aids are used in the ACP process to facilitate conversations and document healthcare choices. A review of the literature indicates a diversity of decision aids of variable quality, accessibility and evidence support (Four Level I, one Level II, one Level VI, one Other: Literature review). Standardized ACP documents, such as state specific POLST and AD, are often used to prompt and record the results of ACP encounters (Molloy, et al, 2000, Level I; Hickman, Keevern, & Hammes, 2015, Level I; Field, Fritz, Baker, Grove, & Perkins, 2014, Level I).

The POLST serves as a transferable medical order and is often used for patients with a life-limiting illness, though not exclusively. The form is limited in scope and address choices related to CPR, use of artificial nutrition and three levels of medical intervention. Comfort care focuses on the relief of pain and suffering by means of pharmacological and non-pharmacological means. Limited care includes comfort care with the use of antibiotics and administration of IV fluids. Full care includes the interventions of the previous levels with the addition of intubation if deemed medically necessary to sustain life (Hickman, Keevern, & Hammes, 2015). A systematic review investigating the use of POLST in the clinical setting identified 23 pertinent studies and found that 1/3 of patients select the lowest level of treatment (comfort care) which is associated with lower rates of hospitalization and in-hospital death. (Hickman, Keevern, & Hammes, 2015). The authors noted that code status, or choice of CPR, was not predictive of the other treatment modalities expressed on the POLST. Consequently,

providers are cautioned not to extrapolate treatment decisions for patients based on code status alone.

The AD includes care components of the POLST but has a broader scope. General in nature, the AD allows the designation of a healthcare power of attorney ("Agent") and a narrative section to outline a patient's goals for healthcare and values for living well (Molloy, et al, 2000). An RCT in Canada implemented the Let Me Decide© AD program which included 1292 residents across 6 nursing homes. The objective of the research was to examine the effect on hospitalizations as well as patient and family satisfaction in decision making. Findings indicate that the implementation of a comprehensive AD program results in reduced use of healthcare service with no significant effect on patient satisfaction or mortality. (Molloy, et al, 2000).

Although the POLST and AD documents show promise the landscape of ACP decision aids is vast, making the selection or resources challenging. A technical brief developed by the Agency for Healthcare Research and Quality (AHRQ) investigated the current practice and research for adult ACP decision aids (AHRQ, 2014; Other: Literature review). A large gap in the research exists where the frequently utilized decision aids, often freely available on the internet, are, not reflected in the empirical research. Of the 16 studies identified, the majority were structured programs, such as Respecting Choices© and Let Me Decide©, which are proprietary, not available to the public and cost prohibitive (AHRQ, 2014).

The National Guideline Clearinghouse (NGC) is maintained by the U.S. Department of Health and Human Services (DHHS) and serves as a free public resource for summaries of evidence-based clinical practice guidelines. These guidelines are developed through a systematic review of the evidence with the intent of improving patient care. This database was investigated as part of the literature review and produced two pertinent resources (National Guideline

Clearinghouse [NGC], 2012, Level I; NGC, 2018, Level I). The Michigan Quality Improvement Consortium developed an EBP guideline to provide ACP tools and intervention recommendations across the patient populations. (NGC, 2018). The guideline is provided in a concise one-page tabular document for ease of reference. Key components of the guidelines include: the ACP process, assisting patients with ACP tools, ongoing-revision of ACP and documentation and implementation. The guidelines reinforce the value of AD and POLST in assisting patients to express their treatment goals verbally and in writing, recommends the identification of a surrogate decision maker and suggests those facilitating ACP discussions should be appropriately trained. It is also recommended that the documentation of ACP discussions be accessible throughout the healthcare system and that AD be incorporated into patient's plan of care.

The second NCG document provides practice guidelines for AD and was developed by a national collaboration of nursing experts through the Nurses Improving Care for Health System Elders (NICHE) project (NGC, 2012). The guideline reinforces the value of AD and recommends guiding principles, assessment parameters and care strategies. The guideline also outlines specific outcomes to evaluate AD interventions. These outcomes include whether patients are asked about preference for an AD. Of those with AD, assessing what percentage are documented in their charts. The guidelines also recommend tracking the use of interpreters for ESL patients and the number of AD completed on admission.

Screening

The first step to engage in ACP is identifying those individuals who would benefit from the process. The review of literature revealed a number of protocols and eligibility criteria to screen patients for ACP discussions of varying consistency (one Level I, one Level VI, two Other: Literature review). The NCG (2018) ACP practice guideline recommends a three-step

hierarchy to define eligible populations for ACP discussions. 1) Patients whose death in the next twelve months would not be surprising, 2) Patients with new or established diagnosis of a serious illness 3) Consider patients aged 18 and over, in any stage of health.

The Gold Standards Framework (GSF) is a comprehensive palliative care program used throughout the National Health Service (NHS) in the United Kingdom (UK). The NHS encompasses numerous practice settings including primary care, acute care hospitals and long-term care homes. A component of the program is a three-step prognostic indictor tool used to identify patients in their last year of life. A copy of the tool is provided by the National Gold Standards Framework Center [NGFSC], (2011), see Appendix A.

The National Gold Standards Framework Center (Armstrong, Wilson, & Tanner, 2016, Other: Literature review) produced a literature review to assess the available evidence that the use of GSF improves early identification of patients across multiple healthcare settings. The evidence indicates that the GSF prognostic indicator improves early recognition of patient suspected to be in their last year of life (NGFSC, 2016). A study investigated the predictive value of the GSF prognostic indicator for patients in their last year of life in an acute care hospital setting and found the tool had high sensitivity, specificity and predictive value (O'Callaghan, Laking, Frey, Robinson, & Gott, 2014, Level VI). For patient identified with at least one of the GSF prognostic indicator triggers, six-month mortality was 56.6% and at 12 months 67.7% compared 5.2% and 10% respectively for those without a GSF trigger. As a result, the positive predictive value of the tool is 67.7% and negative predictive value is 90.0%. (O'Callaghan, Laking, Frey, Robinson, & Gott, 2014). In addition to early identification of patients, the GSF prognostic indicator guidance utilizes a needs based coding system in order to assess and plan services for clients (NGFSC, 2011). The coding is based on the stability of a patient and estimated prognosis. Level A is coded blue and identifies a stable patient with a year or greater

prognosis. Level B is coded green and identifies unstable/advanced disease and months prognosis. Level C is coded yellow with deteriorating status and weeks prognosis. Level D is coded red and indicates terminal care with days prognosis. Navy is the final code and indicates care after a patient has expired (NGFSC, 2011).

Video Intervention

AHC utilizes a suite of ACP patient educational videos through an MOU with HMSA. These videos provide plain language education about ACP that is translated into Asian-Pacific languages. The literature review revealed multiple, robust RCT's which support the ongoing use of the ACP Decisions videos at AHC (six Level II). The research was conducted across settings including hospitalized patients and nursing homes, with varying diagnosis such as advanced cancer, heart failure and dementia and within a diversity of publications (Volandes et al., 2012, 2013; El-Jawahri et al., 2010, 2015, 2016).

The most recently published article by El-Jawahri et al. (2016) investigated the effectiveness of video-assisted support tools and a patient checklist on ACP decision making for patient with heart failure. Results of the study indicate that the intervention group (Verbal description, 6-minute video and ACP checklist) compared to the control group (Verbal description only) were less likely to select invasive or extensive care. This included life prolonging care (22% intervention vs 41% control), limited care (25% intervention vs 22% control), comfort care only (51% intervention vs 30% control) and uncertain (2% intervention vs 7% control). Additionally, patients in the intervention group were more likely to decline CPR (68% vs 35%) and intubation (77% vs 48%) and had a greater knowledge of ACP (4.1 vs 3.0). Statistical analysis were $p>0.001$ for all results listed (El-Jawahri et al., 2016).

The additional studies often used similar designs and interventions as the El-Jawahri et al. (2016) with comparably positive results. One study investigated stability of preference for future

medical care in older people if they were to develop severe dementia. Participants in the intervention groups reported greater knowledge and stability in their EOL decisions. After 6 weeks, 27% of the verbal-only group changed their preference vs 6% in video intervention (Volandes, et al., 2009).

Cost Effectiveness

Net cost savings from ACP interventions is a subject of interest to healthcare organizations. The review of literature revealed three pertinent studies of varying evidence quality (one Level I, one Level II, one Level IV). A systematic review was conducted to examine the cost implications of ACP near the EOL (Klingler, Schmitten, & Marckmann, 2016). Out of seven studies which met inclusion six found cost savings while one found no net cost benefit. Cost savings in the studies with positive results ranged from USD $1041 to USD $64,827 per patient (Klingler, Schmitten, & Marckmann, 2016). This wide range is due in part to the variety of ACP interventions, patient selection and costs measured across the studies.

There are significant ethical issues which must also be considered when investigating cost savings related to EOL care. One salient ethical concern is undue influence during the ACP process on limiting care to reduce expenditure. To avoid conflicts of interest and ethical violations, a transparent ACP process is recommended which 1) clearly delineates program objects 2) assures adequately trained ACP facilitators 3) requires high standards for the facilitation process and 4) assures conflicts of interest are well defined and managed (Klingler, Schmitten, & Marckmann, 2016).

A longitudinal prospective study interviewed patients and followed them through death while aggregating their healthcare costs (Zang, et al., 2009). The research found that the net cost benefit of EOL discussions was $1041 per patient compared to no discussion. Also interesting to note was that those patients with higher costs in their last week of life were rated as having a

worse quality of death rated on the McGill Quality of Life Questionnaire (Zang, et al., 2009). An RCT of AD in Canadian nursing homes indicated that those with a systematically implemented AD had fewer hospitalizations and realized a net savings of $1790 CAN per resident without effecting satisfaction or mortality (Molloy, et al., 2000). Although the consistency of cost effectiveness can be highly variable due to differing ACP and cost measures, the research seems to indicate net savings from systematically implemented ACP interventions.

Weaknesses, Gaps and Limitations

The literature search revealed that although there is a large body of evidence relating to ACP, the quality and consistency is variable. The literature critique utilizing the Mosby (2014) Levels of Evidence tool indicates that the majority of the 21 articles deemed pertinent for this review clustered at the higher levels of evidence (Level I & Level II). These results must be interpreted with caution. Systematic reviews were intentionally selected for the literature critique and synthesis given their higher evidence quality. By their nature, systematic reviews pool results from multiple studies and the articles of lower quality are subsumed within them. As a result, these articles are less likely to be reflected in the current critique. As a result, the higher levels of evidence identified are initially deceptive as the systematic reviews often consisted of observational research (Brinkman-Stoppelenburg, Rietjens, & Van der Heide, 2014). The two Cochrane Library records intended to systematically review ACP RCT's produced inconclusive results due to suboptimal data and explicitly called for higher quality RCT's to be conducted (Lim, et al., 2016; Houttekier, Cohen, Cools, & Deliens, 2012).

Additionally, a large gap in the research was identified by the AHRQ (2014) literature review which found that many of the freely available ACP decision aids are not reflected in the empirical research. A major limitation is that many of the structured programs with available

peer-reviewed literature, such as Respecting Choices© and Let Me Decide©, are proprietary, their tools are not available to the public and are cost prohibitive (AHRQ, 2014).

Innovation/Objectives

The six robust RCT's identified in the literature review support the expanded use of the ACP Decisions videos at AHC to improve documentation of EOL decisions. These videos have been shown to decrease use of extensive interventions, including cardiopulmonary resuscitation (CPR) and intubation while improving ACP knowledge and stability of EOL decisions (Volandes et al., 2012, 2013; El-Jawahri et al., 2010, 2015, 2016). It was recommended to continue to use the Hawaii-specific AD and POLST to facilitate conversations and document healthcare choices (Molloy, et al, 2000; Hickman, Keevern, & Hammes, 2015; Field, Fritz, Baker, Grove, & Perkins, 2014). These resources continue to address AHC's problem-focused triggers to improve ACP utilization and quality care to patients.

Summary

Advanced care planning (ACP) is a dynamic process by which patients, their family and healthcare providers establish the values and goals of medical care and document these in the event a patient cannot communicate for themselves. The purpose of this DNP project is to expand the use of the ACP education videos within the existing ACP program at AHC. The intended outcome is to increase the documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patient's explicit wishes or 'wanted care'. A literature review was conducted to assess the existing research with 21 articles deemed pertinent to the DNP project. The literature was critiqued and synthesized with five major themes identified; ACP effectiveness, decision aids, screening, video intervention and cost effectiveness. The evidence supports the expanded use of ACP education videos and Hawaii specific AD and POLST documents to identify, assess and plan for ongoing ACP implementation at AHC.

Chapter 3. Methods

Introduction

Advanced care planning (ACP) is a dynamic process by which patients, their family and healthcare providers establish the values and goals of medical care and document these in the event a patient cannot communicate for themselves. Unfortunately, these discussions are often incomplete or avoided in practice. As a result, patients and families do not receive the necessary education to make informed care decisions, which can lead to costly and undesired interventions (Field, Fritz, Baker, Grove, & Perkins, 2014; Hickman, Keevern, & Hammes, 2015; Molloy, et al, 2000). This DNP project was established at Adventist Health Castle (AHC) with a committed team of interdisciplinary healthcare professionals. The facility's problem-focused triggers included an organizational priority to expand ACP utilization and meet benchmarks outlined as part of a Memorandum of Understand (MOU) with Hawaii Medical Service Association (HMSA). Knowledge-focused triggers included novel research and ACP practice guidelines from the National Guidelines Clearinghouse (NGC) available since the establishment of their ACP program.

Purpose of the Chapter

Chapter three outlines the methods by which the evidence-based project (EBP) will be implemented. The Iowa model steps 5 through 7 are addressed, which include: piloting the change in practice, implementing the change in practice, and monitor and analyze structure, process and outcome data (Titler et al., 2001). This chapter provides a detailed practice change implementation plan, sampling plan, evaluation plan, project resources, dissemination plan, human subjects considerations, limitations, and concludes with a chapter summary.

Conceptual Framework

The Iowa Framework of Evidence-Based Practice to Promote Quality Care was selected to guide this DNP project (Titler et al., 2001). The model utilizes a systems-based approach with a focus on implementing change at an organizational level. The Iowa model provides a 7-step process which includes 1. Identifying the knowledge and/or problem focused triggers, 2. Forming a team, 3. Assembling relevant research and related literature, 4. Critiquing and synthesis the research, 5. Piloting the change in practice, 6. Instituting the change in practice, and finally 7. Monitor and analyze the structure, process and outcome data (Titler et al., 2001). See Figure 1 for an outline of the Iowa Model of Evidence-Based Practice.

PICO

An acronym for patient/population or problem, intervention, comparison and outcome, the PICO model a common step in the EBP process to organize a clinical question for investigation (Schardt, Adams, Owens, Keitz,& Fontelo, 2007). The PICO statement for this DNP project is provided below.

P- Problem: Underutilization of ACP services for inpatient adults at AHC

I- Intervention: Expanded use of evidence-based patient education videos

C- Comparison intervention: Current practice

O- Outcome: Expanded utilization of ACP services to ensure informed healthcare decision making. Specifically, increased documentation of patient's end-of-life (EOL) care decisions through completion of providers orders for life sustaining treatment (POLST) and advanced directive (AD).

Clinical Question

The clinical question was, will expanded use of evidence-based patient education ACP videos improve POLST and AD completion by 15% for adult inpatients at AHC over four months?

Implementation Plan for Practice Change

Overview

The National Guideline Clearinghouse (NGC) (2014) ACP practice guidelines recommend eligible populations for ACP discussions as those whose 1) death in the next twelve months would not be surprising, and 2) patients with new or established diagnosis of a serious illness. ACP selection policy at AHC was based primarily on a patient's age. All patients ≥ 75 years of age were automatically determined eligible for ACP discussions. The diagnosis of new admissions were reviewed daily by the palliative care coordinator and patients with life-limiting diagnosis were broadly considered for palliative care screening. ACP discussions could also be initiated on the basis of provider referral as well as patient or family request.

Design: QI/EBP. There is often confusion regarding the differentiation between quality improvement (QI), EBP, and research. At a fundamental level, research involves a systematic investigation to generate new knowledge. QI is a data driven process to improve systems or processes locally (Newhouse, 2007). EBP can be considered a form of quality improvement that utilizes the best available scientific evidence and application of that evidence to solve a problem (Newhouse, 2007). EBP is distinguished from QI as it involves a rigorous review of the literature and the synthesis of the available evidence is used to address a specific problem. (Newhouse, 2007). AHC requested assistance to expand the use of their ACP education videos and improve EOL documentation. EBP was the best method to approach this problem as it involves a rigorous review of available evidence to establish an empirical rationale and protocol for intervention.

The intent was not to generate new knowledge and the scope of the project required more than the goals of QI.

The Practice Change

Practice change (State the intervention). This practice change intended to expand the use of the ACP education videos within the existing ACP program at AHC to increase EOL documentation**.** Robust randomized control trials (RCTs) support the expanded use of the ACP education videos (El-Jawahri et al., 2016). The videos were recently made available to view by patients online. The intervention engaged a multi-disciplinary team of health professionals to expand use of the ACP videos by utilizing the novel online viewing method. This intervention assessed AHC's problem-focused triggers to expand ACP utilization and assure quality of care to patients.

Characteristics of the innovation. According to Rogers (2003), there are five characteristics of innovation which contribute to project adoption and diffusion. These characteristics include: relative advantage, compatibility, complexity, trialability and observability. Research indicates these characteristics play a profound role in project adoption, accounting for 49% to 87% of variance (Rogers, 2003). Although all the characteristics of innovation are important, they do not appear to contribute to project adoption equally. Relative advantage accounts for approximately 50% of variance followed by compatibility, complexity, observability and trialability respectively (Rogers, 2003).

Relative advantage. The first, and most influential, characteristic of innovation is relative advantage, and refers to the perception that an innovation is better than current practice. ACP is cost-effective, as patients elect for less hospitalizations with decreased length of stay and cost without negatively impacting satisfaction or mortality (Klingler, Schmitten, & Marckmann, 2016; Zhang et al, 2009). A critical component of the ACP strategy at AHC was the use of the

ACP education videos. The use of the ACP videos has robust RCT data demonstrating that patients are less likely to select invasive or extensive care such as cardiopulmonary resuscitation (CPR) and intubation (El-Jawahri et al., 2016). Until recently, the use of ACP videos at AHC was restricted to one facility iPad and administered by one staff member. As part of this project, the facility intended to transition to an online system where patients would be provided unique access codes to review the videos at their leisure, from within the facility on their mobile devices or computers. The ACP discussions and video review involved an inter-disciplinary group of MD/APRNs, RNs, case managers and social workers on the inpatient units. This new format intended to provide for increased efficiency and immediacy of results for patient ACP knowledge and completion of POLSTs and ADs.

Compatibility. Compatibility refers to an innovation's alignment to existing values, experiences and needs of adopters. The value of ACP videos was recognized by staff, though there was perceived "bottle neck" to their availability due to limited hardware. The availability of ACP video online access was intended to assist staff to meet the needs of their patients with increased efficiency and personalization while aligning to established facility palliative care guidelines.

Complexity. Complexity refers to perceived difficulty to understand and utilize an innovation. The ACP education videos were produced in plain language to improve comprehension by the healthcare consumer. The mechanism by which staff would provide uniquely generated codes to patients to view the videos was a simple process. Utilizing any computer at the nurse's station, staff could print out a code to hand to a patient, which included detailed instructions on its use.

Trialability. Trialability refers to the ability of staff to interact and experiment with an intervention before full-scale implementation. The online access to the ACP videos was available

to staff and was introduced on a limited basis by the palliative care coordinator with no prescribed algorithm for its use.

Observability. Observability refers to the visibility of an intervention's results to users. It was suspected that there would be immediate feedback to staff of the ACP video satisfaction and comprehension during patient interaction. Monthly data was compiled by the palliative care coordinator on AD and POLST completed and number of ACP videos reviewed.

Implementation plan using conceptual framework (Iowa model). The Iowa Framework of Evidence-Based Practice to Promote Quality Care was selected to guide this DNP project (Titler et al., 2001). The model utilizes a systems-based approach with a focus on implementing change at an organizational level. Pilot and implementation was projected to begin in August 2017 and run for four months until December 2017.

Who, what, when, where, why, how. The use of ACP education videos was intended to be expanded within the current ACP program on the Laulima/telemetry unit at AHC. Staff received tailored ACP professional development on ACP video access and integration into current practice. Adjustments were made based on staff feedback during the three-week pilot period and integrated into the four-month implementation period. Marketing materials and communication processes were utilized throughout the pilot, and implementation periods to encourage adoption of the practice change.

Description of each step of the EBP model. The Iowa model provides a 7-step process which is used to guide EBP implementation. Steps one through four were conducted in Fall 2016 and include: 1. Identifying the knowledge and/or problem focused triggers, 2. Forming a team, 3. Assembling relevant research and related literature, and 4. Critiquing and synthesis the research. Although not an explicit step in the Iowa model, the Spring 2017 semester involved determining the finite details of the practice change and defending the proposed intervention at the end of the

Summer 2017 semester. Fall 2017 involved 5. Piloting the change in practice, 6. Instituting the change in practice. The final step 7. Monitor and analyze the structure, process and outcome data, was conducted in Spring 2018 followed by the final project defense.

Implementation timeline. A simplified project outline integrating project phases and the Iowa model is provided below. For a detailed timeline with project tasks, see Appendix B.

Table 3. *Simplified Project Timeline Integrating the Iowa Model Steps*

Project Phases	Iowa model	Timeframe
1. Planning	1. Identify triggers, 2. Form a team, 3. Assemble literature, 4. Critique & synthesis literature, Determine practice change *(not a distinct IOWA step)*	Spring ’17-Summer ‘17 January-August 8 Months
2. Implement Practice Change & Complete Data Collection	5. Pilot Practice Change, 6. Institute Practice Change	Fall ’17 August - December 5 months
3. Complete Data Analysis, Generate Findings, Disseminate Findings	7. Monitor & analyze structure, process & outcome data	Spring’ 18 January-April 4 Months

Piloting the Practice Change

The fifth step in the Iowa model is piloting the practice change (Titler et al., 2001). This step involved a trial of the practice change to a small group to determine the program’s feasibility and effectiveness within the clinical setting. Based on process and outcome evaluation data, the practice change was adapted before full implementation was initiated. This step began immediately following project proposal defense in August 2017 and last 3 weeks.

Sampling Plan

A sampling plan identifies a subsection of the population which will be involved in a practice change and describes their characteristics. The following plan discusses the application of users of innovation, adopter categories, social systems and practice change sample.

Social systems. The environment in which a practice change occurs requires active and open communication between the users of innovation and the social system. As defined by Rogers' (2003), the social system is the set of interrelated units which work together to accomplish a common goal.

Identify the health care organization. AHC is located in Kailua, Hawai`i and is the primary healthcare facility for Windward O'ahu. AHC is a 160-bed facility, with over 1000 employees and 300 physicians. A non-profit community hospital, AHC is owned and operated by Adventist Health. The facility averages 8,500 inpatient discharges, 64,000 outpatient visits and 34,500 emergency room (ER) visits annually (Adventist Health, 2017).

Identify the practice setting. This ACP practice change project was implemented on the Laulima/telemetry unit of AHC. This unit has a total of 45 beds and is located in the primary hospital tower.

Sample (patients, staff, etc.). The accessible sample are the individuals who engage in the practice change and represent a target population of interest (Rogers, 2003). It is important to clearly articulate the sample in order to infer appropriate outcomes for the practice change. This process further involves clarification of criteria for inclusion and exclusion in the sample.

Sample size. The target population for this project were all patients who met existing facility ACP discussion protocol. The accessible sample were patients admitted to the inpatient Laulima/telemetry unit at AHC and staff engaging in the ACP discussions. ACP data was collected for all patients engaged in ACP discussions and included POLST and AD completed

and ACP videos viewed. This data was reported monthly and summative statistics calculated quarterly.

Inclusion/exclusion criteria. Patients included in this project were all individuals 18 years and over admitted to the Laulima/telemetry unit who were identified by facility protocol to benefit from ACP discussions. Patients under the age of 18 were excluded from the project as this population cannot legally complete a POLST or AD. Healthcare professionals included in the project were those who engage in ACP discussions with patients. This included inpatient registered nurses (RNs), social workers (SW), case managers (CM) and hospitalists (MDs). Excluded were healthcare professionals from the ER, intensive care unit (ICU), surgical unit, birth center, oncology clinic, and outpatient clinic.

Application of users of the innovation. There were several users involved in a practice change who worked as a team to assure project success (Rogers, 2003).

Change agents. Change agents often originate outside a given community and serve a primary role as facilitators of innovation between an organization and its users (Rogers, 2003). These individuals have a macroscopic perspective of the intended practice change and oversee the necessary processes to assure timelines and goals are met. As the team leader, the change agent was identified as the DNP student.

Change champion. Change champions may not necessarily hold a formal leadership position but are recognized as experts within an organization and have a broad network of working relationships which are critical to facilitate a practice change (Rogers, 2003). Due to a long-history at AHC and familiarity with ACP processes, the palliative care coordinator was identified as the project change champion.

Opinion leader/s. These team members are competent, dedicated and respected among their peers. Additionally, these individuals have the influence to enact change and are driven by

their passion of the practice change subject matter (Rogers, 2003). The opinion leader at AHC was identified as the palliative care program director.

Others. A project mentor serves a critical role in providing expertise, oversight and guidance throughout the practice change process. The AHC director of inpatient nursing services was identified as the project mentor. Users of the innovation also included the inpatient MDs, RNs, social workers and case managers. These individuals served an important role in troubleshooting project implementation, modeling behaviors, educating colleagues and communicating barriers to change.

Adopter categories. As described by Rogers (2003), there are 5 categories of adopters based on their innovativeness. These categories can be depicted as ideal types on a normal curve partitioned by standard deviations and represented as percentages (Kaminski, 2011). The categories are described below with their respective percentage and identified staff at AHC.

Innovators. (2.5%) are the first to engage with a project and understand the inherent value in the effort. They are risk-takers and are comfortable with change. The DNP student and director of inpatient nursing services were identified as innovators for this project.

Early adopters. (13.5%) are adventurous and serve as opinion leaders to the innovation project. Along with the innovators they serve as role models to the organization members and are critical in advocating for the benefit of change. The palliative care program director and palliative care coordinator were identified as the project early adopters.

Early majority. (34%) are pragmatic and willing to engage with the innovative efforts when benefit is demonstrated. The inpatient social workers, case managers, and some inpatient RNs were identified as early majority adopters.

Late majority. (34%) are often skeptical, cautious and conservative. They require greater assurance of efficacy and benefit from the innovation and rely on the peer pressure from

previous categories. Inpatient RNs and some hospitalists (MDs) were identified as late majority adopters.

Laggards. (16%) are the last group and are the most resistant to change. They often want to maintain the status quo and their opinions can influence the late majority, impeding the diffusion of innovation. Although these individuals may express negative attitudes towards the practice change they often have extensive institutional knowledge. Laggards can provide invaluable feedback concerning previously unsuccessful interventions. These individuals were engaged to solicit their views on potential challenges as well as to mitigate their negative impact on project outcomes.

Institute Practice Change

The sixth step in the Iowa Framework is instituting the practice change (Titler et al., 2001). This step involves integrating lessons learned from piloting the practice change and initiating full implementation of the project. This step began in September 2017 and lasted four months.

Stakeholder Engagement Plan

The U.S. Department of Health and Human Services, Centers for Disease Control and Prevention [CDC], (2011) developed a guidance document which provides a framework for program evaluation in public health programs. Program evaluation is identified as an essential public health service which consists of 6 steps and 4 standards, see Figure 2. The evaluation framework is intended to be used throughout program planning and implementation to assure the practice change is accountable and meets stakeholder needs. The first step in the evaluation process is engaging stakeholders in the program planning process. The 4 standards act to guide each step in the framework. This section addresses the role and recruitment of stakeholders in the

proposed project relating to the four standards. The remaining steps outlined in the evaluation framework are covered in detail in the evaluation plan, integrity of design section.

Figure 2. *CDC Framework for Program Evaluation in Public Health.* (CDC, 2011).

Role of stakeholders. A stakeholder refers to an individual, team or organization who has a vested interest in a program (CDC, 2011). Stakeholders serve a fundamental role in successfully instituting practice change. Their input is critical to assure an appropriate clinical question is developed which aligns to the organizational needs. As experts in their organization, it is recommended that key stakeholder be engaged at the earliest stages of planning and throughout the implementation process. The CDC (2011) outlines four standards to guide the engagement of stakeholders which includes utility, feasibility, propriety and accuracy. Associated questions are used to articulate the degree and appropriateness of stakeholder engagement and assure the evaluation question and plan aligns to organizational needs.

Table 4. *Standards for step 1: Engaging Stakeholders* (CDC, 2011).

Standard	Questions
Utility	Have stakeholders been included who will use the results?
Feasibility	Has enough time been budgeted to recruit and engage the appropriate set of stakeholders?
Propriety	Have stakeholders been included whose expertise can help decide if the evaluation question and evaluation design are ethical?
Accuracy	Have stakeholders been included who have the expertise to determine if you have asked a relevant evaluation question, gathered accurate evidence (data collection) and drawn valid conclusions (data analysis and interpretation)?

Recruitment/marketing plan. One strength of the Iowa model is that it involves a team-based approach to practice change. There are many feedback loops built into the framework which encourage continual stakeholder engagement (Titler et al., 2001). This aligns well the to the CDC emphasis on stakeholder engagement as a critical step in program evaluation (CDC, 2011). The director of inpatient nursing services at AHC, served as mentor and point-of contact with the organization and the proposed project. AHC palliative care coordinator, was an organizationally recognized expert on ACP and engaged in all meetings, providing ongoing insight and support. Aligned to Rogers' (2003) diffusion of innovation model, the director of inpatient nursing services represented the adopter category of innovator as she was willing to take risks and had the authority and resources to enact change. The palliative care coordinator represented the early adopter category as she was integrated into the social system, was highly respected and considered an opinion leader on ACP. These stakeholders provided credibility to the project and served to decrease uncertainty in adopting the practice change. The director of inpatient nursing services and palliative care coordinator were engaged from the beginning of the

planning process through in-person meetings and assisted in the identification of key project stakeholders.

The role of each stakeholder is outlined in Appendix C. Stakeholders from the roster are identified based on their group (1. Program operations 2. Receive services 3. Users of evaluation findings) and their role in supporting the evaluation. This included improving credibility, assisting in the design of the evaluation plan, implementing the practice change, advocating for implementation and using their authority to fund or implementing the project findings for sustainably. This activity assisted in identifying individual stakeholder's motivation and expertise to be engaged in the evaluation plan. To further articulate the role of stakeholders in the stages of the evaluation plan, Appendix D outlines stakeholder roles in developing the program description, evaluation question, data collection, management and analysis, disseminating and evaluation results.

As the implementation phase approached mass media techniques were used to solicit buy-in and participation from a broader range of staff. This included e-mail and posters advertising the ACP project. Gagon (2011) states that these messages should be from sources of influence and credibility to the users. As such, the project mentor and director of inpatient services served as a primary conduit for mass media dissemination.

Application of communication processes. Communication is arguably the most important component to successful diffusion of innovation. Practice change occurs within social systems and a clearly articulated communication strategy is critical to adequately disseminating information and fostering stakeholder engagement. Any practice change is constrained by limited resources, including time, energy and money. As such, a communication plan requires a judicious selection of strategies to address the needs of the project and maximize available resources. Research indicates that no singular technique is most effective for health behavior

change and that a mix of communication strategies should be utilized (Briscoe and Aboud, 2012). It is also recommended that dissemination activities be carefully planned, clear, simple, action oriented and consider contextual factors and knowledge user needs (Gagnon, 2011). Rogers' (2003) diffusion of innovation model describes two primary communication channels; mass media and interpersonal communication.

Interpersonal. The interpersonal channel involves face-to-face interactions between two or more people including in-person meetings and professional development seminars. While inefficient and time-intensive, interpersonal communication has greater efficacy in changing attitudes, overcoming resistance and persuading behavior change particularly with late majority and laggard categories (Rogers, 2003). Interpersonal communication was strategically utilized early in project development. Ongoing, face-to face meetings were scheduled with the core stakeholders at AHC to build trusted relationships and assure the project aligned to the facility's goals, capacity and needs. Additionally, professional development was required for staff to engage in research-based methods for ACP discussions with patients and families. The DNP student served as instructor for these sessions.

Staff training was scheduled to align to a yearly skills fair held over three days during the third week of September. During this time, a total of 15 hours of sessions and a total of 75 staff were trained in 20-minute hands-on, one-on-one or small group sessions. Training included explanation of the rationale for ACP, hands on access to and viewing of the videos. In addition, hard-copy ACP resources were provided and reviewed including how to "start the conversation" of ACP and clarification of ACP documentation relating to POLST and AD. During this time, there was opportunity for group conversation and addressing any questions or concerns. Contact information of the DNP student was provided to staff, and staff was instructed to contact the

DNP student with any questions, concerns or follow-up. During project implementation, the DNP student was available as a resource to staff for guidance and mentorship.

Mass media. Mass media is an efficient means to disseminate information to a broad audience quickly. Examples of mass media communication strategies include e-mail, websites, advertisements and posters. The primary form of communication with the core stakeholder group was through e-mail, as it is an effective means to foster open dialogue and keeps members informed of ongoing developments and scheduled meetings. As the implementation phase approached, organization-wide e-mail and posters advertising the advanced care planning (ACP) project were used to solicit buy-in and participation from a broader range of staff. These mass media methods were particularly effective with early adopters at creating awareness and fostering open communication (Rogers' 2003).

Monitor & Analyze Structure, Process, & Outcome Data

This is the seventh and final step in the Iowa Framework (Titler et al., 2001). This step involved the collection, analysis and synthesis of practice change implementation data. An interpretation of findings were made and implications discussed for future practice change. This step began in January 2017 and lasted four months.

Evaluation Plan

A clearly articulated clinical question identifies the intervention, outcomes, population, setting and timeframe of a proposed practice change. These details are critical to assure the integrity of the evaluation plan and that an intervention aligns to the needs and structure of the organization. The clinical question for this project was: will expanded utilization of evidence-based patient education ACP videos improve POLST and AD completion by 15% for adult inpatients at AHC over 4 months?

Integrity of the Evaluation Design

The CDC (2011) provides a framework for program evaluation in public health programs. Program evaluation is identified as an essential public health service which consists of six steps and four standards. The evaluation framework is intended to be used throughout program planning and implementation to assure the practice change is accountable and meets stakeholder needs. The six steps include engaging stakeholders, describing the program, focusing the evaluation design, gathering credible evidence, justifying conclusion and ensuring use and sharing lessons learned. These six evaluation steps were integrated into the intervention to identify and engage core stakeholders and assure the evaluation question is of interest to the stakeholders and the organization. The assumption was that a vested interest in the clinical question would motivate engagement in the proposed project. It was anticipated that credible evidence could then be gathered and the results used to enact sustainable organizational change and ultimately improve health outcomes.

The four standards of utility, feasibility, propriety and accuracy acted to guide each step in the framework, assuring integrity of the evaluation design. The standards are endorsed by the American Evaluation Association (AEA) and are intended to assist in creating a useful, realistic and ethical intervention (Milstein, Wetterhall, & CDC Evaluation Working Group, 2000). The CDC program evaluation standards are reviewed below in detail to assure the integrity of design (CDC, 2011). The project aimed to answer the clinical question by utilizing an impact (summative) evaluation design that describes how evidence-based, patient education ACP videos will impact POLST and AD completion for adult inpatients at AHC.

Utility. Utility refers to who will use the evaluation results and if it serves the information needs of the intended users (CDC, 2011). This standard was met through continual

engagement with the key stakeholder group who either represent additional stakeholders or had direct experience with the users (patients).

Feasibility. Feasibility refers to whether the evaluation is realistic, prudent, diplomatic and frugal (CDC, 2011). It is important that enough time has been budgeted to recruit and engage stakeholders. This standard was met through a project timeline which had broad agreement from key stakeholders on project phases and timeframe. Costs related to the project were assimilated into currently allocated budgets. The palliative care coordinator and director are key staff and well versed in ACP processes. However, the RN/CM/SW staff required training on the use of the ACP videos and appropriate procedures. Space in the palliative care office was available to the DNP student and the Laulima/telemetry unit where the project was implemented. Other resources such as printing were covered within existing facility budget.

Propriety. Propriety refers to whether the evaluation is legal and ethical regarding those involved (CDC, 2011). This standard was met as stakeholders with a diversity of expertise were engaged to assess if the evaluation question and design are ethical. The intervention was implemented within an established ACP program. No ethical issues were identified.

Accuracy. Refers to whether the evaluation produces accurate information and that the evaluation question is measurable (CDC, 2011). Accuracy requires that stakeholders are included who have the expertise to determine a relevant clinical question has been asked, if accurate evidence is collected and if valid conclusions can be drawn from the results. This standard was met as the key stakeholders have the expertise to meet the accuracy requirements.

Program Description

The purpose of this DNP project was to expand the use of the ACP education videos within the existing ACP program at AHC. The intended outcome was to increase the

documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patient's explicit wishes or 'wanted care'.

How the program currently works. AHC utilized a suite of ACP patient educational videos through an MOU with HMSA. These videos provided plain language education about ACP that was translated into Asian-Pacific languages. ACP selection policy at AHC was based primarily on a patient's age. ACP discussions were initiated in several ways. All patients ≥ 75 years of age were automatically determined eligible for ACP discussions. The diagnosis of new admissions were reviewed daily by the palliative care coordinator and patients with life-limiting diagnosis were broadly considered for palliative care screening. ACP discussions were also initiated based on provider referral as well as patient or family request. The facility utilized a screening protocol for ACP referral, though the evidence-base for the protocol is unknown.

When patients are suspected to need ACP discussions, the palliative team (palliative care director and palliative care coordinator) was consulted to engage in the ACP discussions. The viewing of the ACP videos was restricted to one facility iPad which was often only used by the palliative care coordinator. The procedure for when and with which patients to utilize the ACP video was under the professional discretion of the palliative care coordinator.

The ACP videos are used as a tool to engage in and foster discussion regarding EOL healthcare decisions. After viewing the videos, research indicates patients have greater knowledge and regarding their EOL options (Volandes et al., 2009). Engaging patients in discussions regarding EOL options and providing research-based, plain language education, the videos assist to increase the number of POLST and AD completed. The videos also contribute to informed decision making, improving alignment of EOL documented choices to patient wishes.

How the EBP changes the program to make it better for the patient. The practice change intended to expand the use of the ACP education videos within the existing ACP

program at AHC. After a patient was determined to be eligible for ACP discussions, based on existing facility protocol, the ACP videos were to be offered through the online modality. Patients would be provided a unique URL allowing them to access the ACP videos using their personal devices or on a facility computer available in each patient's room. Various modalities for patient viewing were discussed. These included disposable head phones and/or portable speakers for the in-room computers.

The practice change intended to improve patients access to the ACP video decision aids. A multi-disciplinary team of inpatient staff were engaged in fostering discussion of EOL decisions and providing additional support and guidance to assist patients to articulate their wishes. The result of this effort was intended to increased completion of AD and POLST by patients before hospital discharge. Although not measured by the project evaluation, it was proposed the actions initiated by the practice change would empower patients and their families regarding their EOL choices while improving the patient experience and care in the hospital.

Definitions

The project was designed to answer the clinical question by utilizing an impact (summative) T1-T2 evaluation design comparing baseline data (T1) to outcome data at the end of implementation (T2). The evaluation design included a process evaluation component that documented provider perception of the intervention throughout implementation. Findings from the process evaluation provided context for the analysis of the impact of project outcomes.

Problem. The conceptual definition for the problem was lack of documented EOL decisions. The problem was operationalized as the number of AD completed and number of POLST completed. Completed requires that all sections of the forms have been filled out. A POLST must be signed by a healthcare provider. An AD must be signed by 2 witnesses or notarized.

Baseline (T1). The evaluation measured the impact of the intervention on two outcomes: AD completion and POLST completion. The conceptual definition of the baseline (T1) was EOL documentation before the intervention. The baseline (T1) data was operationalized as the mean AD completed and mean POLST completed before implementation for adult inpatient at AHC. Four months of data was available before project implementation (May 1, 2017 to August 31 2017). Mean AD and mean POLST completed during the four months before project implementation was calculated and serves as the baseline (T1) data for the evaluation.

Intervention. The intervention was viewing of ACP educational videos. This intervention was operationalized as the number of ACP videos viewed monthly from September 1, 2017 to December 31, 2017.

Outcomes (T2). The evaluation's outcomes were conceptually POLST and AD completion.

Outcome variable. The operational definition was the number POLST and number of AD completed each month during intervention. Mean AD and mean POLST completed during project implementation were calculated and served as the outcome data for the evaluation.

Process variable. A process (formative) evaluation conducted throughout the project documented key stakeholder perception of the ACP intervention. Data from key stakeholder interviews were used to assess how the POLST/ED process~~es~~ might be improved. This process evaluation component was grounded in the Appreciative Inquiry Model which is a method for studying and changing social systems that focuses on positive collective inquire and a desired future state (Bushe, 2013). Three brief open-ended questions were asked of staff during informal discussion and took less than 5 minutes. The questions were: 1) What about the way we help people with ACP is working now? (Instills pride) 2) What can be better? (Short list, without reference barriers/challenges). 3) What are some changes that could make ACP even better?

(Defines action steps, solicits buy-in). The process evaluation documented staff perception of the intervention throughout implementation. Findings from the process evaluation provide context for the analysis of the impact of project outcomes

Discussion. It is fortunate that AHC collects robust data relating to their ACP activities which meets all the needs of the impact evaluation. The palliative care coordinator compiles and reports the ACP data monthly to HMSA as a requirement of the MOU. No additional protocols needed to be established to input or synthesis data for the intervention.

Data Management Plan

A cogent data management plan is critical to establishing the validity and credibility of the evaluation design (CDC, 2011). There must be a clear, concise and logical connection between the data collected and the clinical question being answered. Consequently, data management serves as another reminder of the important role stakeholder engagement plays at all stages of the evaluation process and the necessity of aligning actions to the program evaluation standards of utility, feasibility, propriety and accuracy. Without a clear data management plan, data collected will not be seen as credible and stakeholders are unlikely to value the project analysis or recommendations.

Data sources. The data source for the intervention was the AHC EMR system. ACP videos viewed, POLST and AD completion outcomes were documented in a dedicated section of the AHC EMR. This section contains code status, in addition to a scanned, visual record of completed hard-copy ADs and POLSTs.

Data collection procedures. The palliative care coordinator has full access to the facility EMR system. The palliative care coordinator synthesizes information from the EMR to produce the monthly ACP data reports.

Chronological order of data collection procedures. The completion of AD and POLST and ACP viewing is ongoing as part of ACH's ACP program. The data is synthesized and produced as monthly reports by the palliative care coordinator. The formative evaluation was conducted throughout project implementation to document key stakeholder perception of the ACP intervention. Interviews were based on stakeholder availability.

Method of collection (Tools, instruments, application, etc.). Completed AD and POLST were provided to the unit secretary and sent to records for upload to the facility EMR. ACP videos viewed are tracked by the palliative care coordinator in the EMR. The process evaluation utilized three item questionnaire based on Appreciative Inquiry Model (Bushe, 2013).

Storage (confidentiality, etc). All data was contained within the AHC EMR and secured computer network. Any data reports provided to the DNP student by the palliative care coordinator has all patient identifiable information removed.

Data analysis plan. With the robust monthly ACP data available there was flexibility in how data could be analyzed for the proposed intervention. The impact (or summative) evaluation was used to assess the effectiveness of the intervention. The intervention was projected to last for four months.

The baseline (T1) was defined as a mean count of AD, POLST and videos viewed four months before implementation (ex. Mean count = # of AD completed from September 1st, 2017 to December 31, 2014/ 4 months). Project outcomes were assessed by comparing baseline T1 data and mean counts for the four months of implementation (T2).

Method (Qualitative/quantitative/mixed). The project utilized a mixed methods evaluation design. The quantitative component was the impact (summative) T1-T2 evaluation designed to answer the project clinical question and compared baseline data (T1) to outcome data at the end of implementation (T2). The qualitative component was the process (formative)

evaluation conducted throughout the project to document key stakeholder perception of the ACP intervention

Data presentation plan. The palliative care coordinator was consulted in the data analysis and interpretation. Current methods of data dissemination were reviewed to assure optimal uptake of results by stakeholders.

Fit with clinical question. Data collected aligned to the project clinical question. The primary data elements were AD and POLST completed and ACP videos viewed. All data collected by the facility met the requirements to assess the efficacy of the project based on the clinical question.

Resources

A comprehensive analysis of resources is necessary to assure the project was realistically implemented and reinforces the feasibility of the evaluation plan. The CDC program evaluation framework places significant emphasis on continuing stakeholder engagement which can assist to identify resources challenges (CDC, 2011).

Financial

Costs related to implementation were assimilated into the current facility palliative care and ACP budgets. The director of palliative care and director of inpatient nursing services have budget authorization and were committed to the project outcomes.

Human/Time

The palliative care coordinator and palliative care director were well versed in ACP procedures and committed to the project outcomes. Directors of inpatient staff (RN/CM/SW) were supportive of project outcomes and were willing to allow staff release for professional development. A realistic timeline was developed in collaboration with key stakeholders.

Physical

The intervention took place on the Laulima/telemetry unit in AHC. Space was available in the palliative care department office for the DNP student to work on project activities.

Dissemination Plan

Marketing Plan to Disseminate Results

An evaluation report will be produced for the facility after project implementation, write-up and defense in March 2018. This report will consist of an executive summary and briefly address organizational triggers, methods, results and stakeholders engaged in project planning and implementation. Based on the CDC (2011) recommendations for writing evaluation reports, the report will be clear and succinct with engaging graphics and tables to present pertinent data. With permission from the project mentor, the results of the project can be shared at the monthly meeting of Kokua Mau, Hawaii's hospice and palliative care organization. Content relating to the project may be included in the monthly AHC newsletter, as a facility wide e-blast and featured on the AHC website.

Role of stakeholders. Reports will be produced by the DNP student. The project mentor and palliative care coordinator will play a critical role in reviewing content and providing access to dissemination streams such as facility e-mail.

Plan for Sustainment of Practice Change

The intervention was within an established ACP program at AHC with a dedicated group of core stakeholders committed to project success. The uptake of a practice change was enhanced by an established program and dedicated staff.

Role of stakeholders. Nonetheless, Rogers' (2003) describes the five adopters of innovation categories, including innovators, early adaptors, early majority, late adopter and laggards. The group of core stakeholders represented the innovators and early adaptors, those

who are risk takers, energetic and comfortable with change. In order to assure sustainable practice change, all innovator categories were addressed, particularly the laggards. Laggards are the most resistant to change, though can serve as great benefit to the success of an innovation. With the assistance of the project mentor and early adopter team, the laggards were identified and their perspectives solicited. This engagement served a dual purpose. It assisted to mitigate future resistance if their voices are perceived to be heard and their insight can help avoid future implementation challenges.

Human Subjects Considerations

This project was designed to protect the rights the human subjects involved. Inherent to EBP design, there was no randomization of subjects to treatment conditions. Evidence-based practices were implemented with no additional risk beyond what was expected with standard practice. Vulnerable populations were not included and patient identifiable information was not collected. The DNP student completed the University of Hawaii required Collaborative Institutional Training Initiative (CITI) course in Human Subjects Protection. The project was reviewed by a committee consisting of faculty and clinical experts to ensure there was adequate human subjects protection.

Justification to Exclude IRB Process

As an EBP, an IRB was not indicated for this practice change. The purpose of an EBP is to translate knowledge into answering a practice question and provide a foundation for best practice care. The intervention was presumed to benefit participants and there was no anticipated risk beyond standard practice. The project was designed to minimize risk, assure privacy, confidentiality and address consent.

Consenting Procedure

Consent to view the EBP videos followed established facility protocol. It was stipulated to patients that video viewing was voluntary and they could stop viewing the videos at any time.

Limitations

This project was conducted under less than ideal conditions. The practice change was implemented in the fluid work environment of an inpatient hospital floor. As an EBP, conditions were not constant and variables were not controlled. There was a broad inclusion criteria with all patients 18 years and older admitted to the telemetry floor at AHC eligible to engage in the ACP videos. The sample size was limited to the patients on the one hospital floor and to the four-month implementation period between September to December. With this limited implementation phase, there may not have been adequate time to fully engage the staff and results were unable to indicate a sustained practice change.

Summary

The purpose of this DNP project was to expand the use of the ACP education videos within the existing ACP program at AHC. The intended outcome was to increase the documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patient's explicit wishes or 'wanted care'. This chapter outlines the methods by which the EBP was implemented. Iowa model steps five through seven were addressed, which include: piloting the change in practice, implementing the change in practice and monitor and analyze structure, process and outcome data (Titler et al., 2001). This chapter provides a detailed practice change implementation plan, sampling plan, evaluation plan, project resources, dissemination plan, human subjects considerations, and analysis of project limitations.

Chapter 4. Results

Objectives

The purpose of the project was to increase the documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patient's explicit wishes or "wanted care". The literature supported the expanded use of the ACP Decisions videos at AHC to improve documentation of EOL decisions as these videos decrease use of extensive interventions, including cardiopulmonary resuscitation (CPR) and intubation, while improving patients' ACP knowledge and stability of EOL decisions (Volandes et al., 2012, 2013; El-Jawahri et al., 2010, 2015, 2016). The literature also supported the continued use of the Hawaii-specific AD and POLST to facilitate conversations and document EOL choices (Molloy, et al, 2000; Hickman, Keevern, & Hammes, 2015; Field, Fritz, Baker, Grove, & Perkins, 2014).

Description of Sample

The sample population was all patients on the Laulima/telemetry unit of AHC who were screened and met criteria for ACP discussions per facility protocol. All patients meeting criteria were offered the intervention. Patients under 18 years of age were excluded as this population cannot legally complete a POLST or AD.

Trend Analysis for Process & Outcome Variables

A process (formative) evaluation was conducted throughout the project to document key stakeholder perception of the ACP intervention. Data from key stakeholder interviews were used to assess how the POLST/AD processes might be improved. This process evaluation component was grounded in the Appreciative Inquiry Model which is a method for studying and changing social systems that focuses on positive collective inquiry and a desired future state (Bushe, 2013). Three brief questions were asked of staff during Laulima/telemetry unit meetings as well as informal one-on-one and small group discussions during project pilot and implementation.

Staff included physicians, RNs, case managers and social workers who serve on the Laulima/telemetry unit. Formative evaluations took less than five minutes to complete and included the following open-ended questions: 1) What about the way we help people with ACP is working now? 2) What can be better? 3) What are some changes that could make ACP even better? Process evaluation trend analysis was conducted by identifying themes through qualitative review of the evaluation data. Themes were ranked by question based on frequency. For comparative purposes, responses were divided between those provided during the three-week pilot period (August 11, 2017 to August 31, 2017) and the four-month implementation period (September 1, 2017 to December 31, 2017). Findings from the process evaluation provide context for the analysis of the impact of project outcomes and are summarized below.

Table 5. *Process Evaluation Theme Analysis*

Pilot (Aug 11, 2017 to Aug 31, 2017)	Implementation (Sept 1, 2017 to Dec 31, 2017)
I. What about the way we help people with ACP is working now?	
1) Highly qualified palliative care staff	1) Highly qualified palliative care staff
2) Facility specific AD document brochure	2) Knowledge/confidence to engage in ACP discussions
3) Admission questionnaire asks whether patient has an AD and/or POLST	3) Access to ACP videos/resources
II. What can be better?	
1) How to "start the conversation" (staff anxiety/fear/discomfort concerning appropriate approach)	1) Cultural appropriate ACP engagement
2) Interdisciplinary communication	2) Staff knowledge of ACP
3) Patient/family readiness	3) Time
4) Culture/language challenges	4) Patient/family readiness
5) Time	5) Interdisciplinary communication

III. What are some changes that could make ACP even better?	
1) Provide resources: Videos, cheat sheet reference, Q&A	1) Cultural competency training in ACP
2) Clarification of POLST and AD	2) Ongoing professional development-general ACP topics
3) Increase interdisciplinary communication	3) Interdisciplinary huddle including ACP

The first question of the process evaluation interview was "What about the way we help people with ACP is working now?". Results from the pilot period indicate that staff perceived the palliative care staff as highly qualified and trusted resources to consult for ACP engagement with patients and their families. AHC has developed a facility specific brochure, which provides guidance to patients regarding AD and contains a blank AD. Staff identified this as an easily available and helpful resource for providing additional AD information to patients and staff to review at their leisure. During admission, all patients are required to complete a standardized questionnaire to assesses whether a patient has a POLST or AD. Staff states that the questionnaire is the primary means by which they identify what ACP documentation has been completed and, if appropriate, provide additional resources or follow-up consultation with palliative care staff.

Results during project implementation indicate continued, strong positive perception of the facility's palliative care department. During implementation, staff received multiple opportunities for ACP professional development. These opportunities included: ACP education video access training modules of 75 staff in small group setting, ACP review during all-staff meetings, supplementary informational handouts, and in-service and ongoing mentorship by the DNP student. As a result, staff indicated increased ACP knowledge and confidence to engage in ACP discussions. Before project implementation, few staff were aware of the availability of the

ACP educational videos. After implementation, all staff interviewed were aware of the ACP videos and overwhelmingly identified them as a helpful resource to supplement ACP education. Staff also noted the benefit of ACP informational handouts during professional development sessions to provide guidance and reduce uncertainty when engaging in ACP discussions.

The second question of the process evaluation interview was “What can be better?”. Results from the pilot period overwhelmingly indicated the primary area of improvement was assistance in initiating ACP discussions. Staff expressed anxiety, fear and discomfort to engage in ACP discussions and uncertainty regarding the appropriate approach to these encounters. There was an expressed desire across healthcare roles for increased interdisciplinary communication to collaborate and support ACP activities. As an example, an RN may consider a patient to benefit from an ACP discussion regarding their POLST care options. However, the RN is uncertain what communication has occurred with the attending physician regarding the patient’s diagnosis and/or prognosis and will not feel confident to initiate the ACP conversation. As a result, the topic may fail to be addressed at all. An additional challenge of ACP is patient and family readiness. Although an ACP discussion may appear to be a priority, the ability to proceed is dependent in part on the willingness and ability of patients and their families to engage in the discussion. Every patient experience is unique, and while an ACP discussion can seem prudent, it may nonetheless be inappropriate to the situation. Staff also recognized the need to deliver care sensitive to the unique cultural and linguistic diversity of the community. Lastly, in a complex healthcare environment with competing demands, time is a valuable and finite resource. While staff recognized the importance of ACP, immediate care needs were given priority, and there exists a common perception that there is insufficient time to address ACP during an inpatient stay.

Results during project implementation indicate the primary area of improvement related to assistance in initiating ACP discussion was sufficiently addressed. Initiating ACP conversations and related feelings of anxiety/discomfort were not identified as a significant theme in follow up interviews. However, staff expressed a desire for ongoing ACP professional development whenever available. The theme of culturally appropriate ACP engagement became a primary subject of importance during implementation. The ACP education videos were viewed by staff as a helpful resource in their professional development and supplement to ACP discussions with patients. However, staff described sensitivity to the personal and cultural implications of death and dying in Hawaii. Staff indicated a preference when initiating ACP discussions to rely on the therapeutic relationship developed with patients and their family to provide ACP education and guidance rather than relying on technology. Perceived time constraints remain an area of challenge for staff; however, there was recognition after professional development that with "starting the conversation" a significant goal of ACP can be met with a comparatively low investment of time. Staff recognized that patient and family readiness is assisted by attempting to initiate ACP when appropriate and providing the time and space for patients and their family to make decisions suitable to their situation. During implementation, staff noted that interdisciplinary communication occurred during project meetings but that this remained an area of improvement which may require systemic intervention outside the scope of the project.

The third question of the process evaluation interview was "What are some changes that could make ACP even better?". Results from the pilot period indicated a desire for ACP resources, including educational videos and physical handouts, that could be utilized as references. Staff also requested greater clarification on the differences between POLST and AD. Lastly, increased interdisciplinary communication was perceived to benefit ACP activities in the

facility. During implementation, results indicated that the primary areas of improvement related to the provision of resources and clarification of POLST and AD were met. These were not identified as significant themes in subsequent interviews. The provision of ACP training with specific focus on culturally competent care in Hawaii emerged as a primary theme of the project. The ACP education videos were adapted to include video and narration from local healthcare providers. However, staff indicated that they desire further training on the nuances of engaging in ACP discussions with the diversity of cultures living in Hawaii. In addition, staff expressed the desire for ongoing training in ACP generally. One suggestion of staff to improve interdisciplinary communication was to include ACP as a required topic during interdisciplinary huddle and shift changes.

The project was designed to answer the clinical question by utilizing an impact (summative) T1-T2 evaluation design comparing baseline data (T1) to outcome data at the end of implementation (T2). The evaluation measured the impact of the intervention on two outcomes: AD completion and POLST completion. The conceptual definition of the baseline (T1) was EOL documentation before the intervention. The baseline (T1) data was operationalized as the mean AD completed and mean POLST completed before implementation for adult inpatient at AHC. Four months of data was available before project implementation (May 1, 2017 to August 31 2017). Mean AD completed and mean POLST completed during the four months before project implementation was calculated and serves as the baseline (T1) data for the evaluation. The intervention was viewing of ACP educational videos. This intervention was operationalized as the number of ACP videos viewed monthly from September 1, 2017 to December 31, 2017. The outcomes (T2) data were the number of POLST and AD completed each month during intervention. Mean AD completed and mean POLST completed during project implementation were calculated and served as the outcome data for the evaluation.

Table 6. *Baseline T1*

	ACP Videos Viewed	AD Completed	POLST Completed
May	6	56	44
June	2	47	56
July	3	94	69
August	3	65	58
Total	14	262	227
T1 Mean	3.5	65.5	56.75

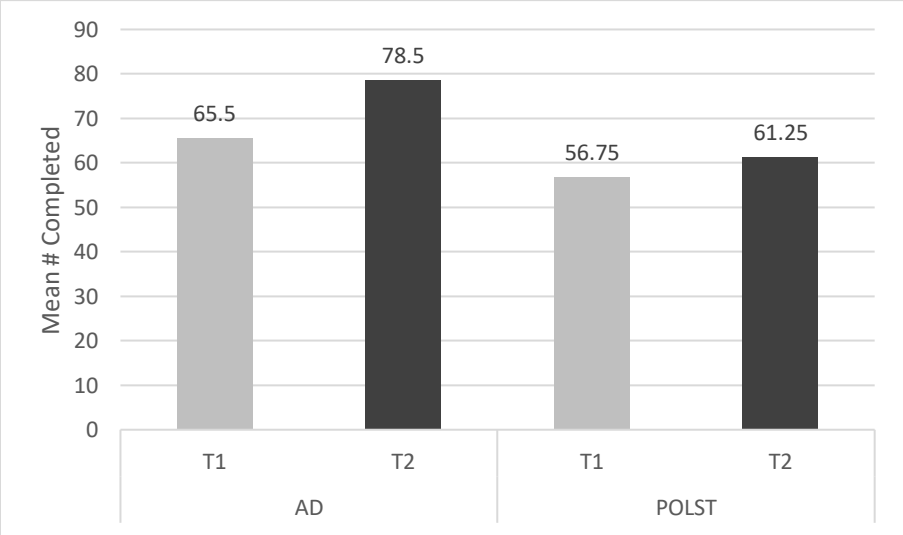
Table 7. *Outcome T2*

	ACP Videos Viewed	AD Completed	POLST Completed
September	2	69	59
October	3	85	51
November	3	81	53
December	9	79	82
Total	17	314	245
T2 Mean	4.25	78.5	61.25

Table 8. *T1-T2 Comparison*

	Baseline T1	Outcome T2	T1-T2	Percentage (%)
ACP Videos viewed	3.5	4.25	0.75	21.43
AD Completed	65.5	78.5	13	19.84
POLST Completed	56.75	61.25	4.5	7.92

Figure 3. *Mean AD and POLST at T1 and T2*



Evolution of Project

The project initially proposed to offer the ACP education videos through a new online modality. Patients would be provided a unique URL allowing them to access the ACP videos using their personal devices or on a facility computer available in each patient's room. Various modalities for patient viewing were discussed including disposable head phones and/or portable speakers for the in-room computers. During the three-week pilot period (August 11, 2017 to August 31, 2017), feedback from staff indicated that several challenges existed related to the implementation of the online system for viewing ACP videos. Ultimately, it was determined to not be a preferred method of demonstrating the videos to patients and their families. The initial rationale to utilize the online system was that it would increase ACP education access to staff and patients as it was previously restricted to a free-standing iPad utilized exclusively by the palliative care staff. Prior to the pilot, the facility purchased an iPad attached to a wheeled dolly for the Laulima/telemetry unit to provide staff and patients access to a database of health specific videos unrelated to the ACP education videos. An iPad was now dedicated to the unit, easily transferrable to patient rooms and secured to a dolly to prevent loss. In piloting the online ACP video system, staff identified the diversity of patient personal devices and the set-up of facility computer charting terminals with headphones/speakers in patient rooms as significant, potentially time-consuming barriers to utilization. By comparison, the dedicated unit iPad dolly provided a familiar and standardized ACP education video viewing experience for staff with limited opportunities for time consuming troubleshooting. Staff communicated that this was the preferred method to engage all staff in demonstrating the ACP education videos with the option of utilizing the online system when appropriate.

The cultural nuances relevant to ACP were not fully appreciated before project implementation. Videos served a meaningful role in staff professional development and a means to increase ease of engaging in ACP discussions. However, staff expressed a preference to capitalize on the established therapeutic relationship with patients to engage patients in ACP conversations rather than relying on or using the iPad. The iPad was used occasionally, however when engaging in sensitive ACP discussions staff expressed that the use of a video for EOL decision-making seemed impersonal and at times inappropriate under the circumstances.

Expected vs Actual Outcomes

The objective of the project was to increase the documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patients' explicit wishes or "wanted care". The expected outcome to increase AD and POLST completion by 15% was an ambitious goal. The 19.8% increase in AD completion exceeded expectations. POLST completion increase of 7.9% was a modest but meaningful improvement. It is hoped that this trend will continue as staff familiarity and comfort with engaging in ACP discussions continues to grow.

Facilitators

The greatest asset to this project was the dedicated interdisciplinary team engaged and committed to the project goals, including administrators, physicians, RNs, case managers, and social workers. The facility has a strong culture of EBP project implementation. Staff is responsive and open to EBP change, eager and enthusiastic for training related to ACP. The importance of engaging in ACP conversations as it relates to improved patient care was universally agreed upon by stakeholders. Additional facilitators include a palliative care department perceived as capable of delivering high quality, trusted care.; AHC ongoing investment ACP education videos and iPad technology for patient education; facility specific AD

documents; and an existing admission questionnaire assessing patient AD and/ or POLST status with prompts for follow-up actions.

Barriers

This project was conducted under less than ideal conditions. The practice change was implemented in the fluid work environment of an inpatient hospital floor. As an EBP, conditions were not constant and variables could not be effectively controlled. There was broad inclusion criterion: all patients 18 years of age or older admitted to the Laulima/telemetry floor at AHC were eligible for engagement in the ACP videos. The sample size was limited to the patients on the one hospital floor and to the four-month implementation period between September and December. With this limited implementation phase, there may have been inadequate time to fully engage staff and results of a sustained practice change could not be demonstrated.

Highlighted during in the process evaluation during project implementation, there is a significant psychosocial component to engaging in ACP. Staff require time to acclimate to the role of ACP facilitator. Discussions can be emotionally challenging and a comfort to engage in ACP encounters develops over time with greater experience, and ongoing knowledge and skill development.

Also identified was the cultural sensitivity required to engage in ACP discussions, particularly in a diverse State like Hawaii. A small qualitative study involved cross-cultural focus groups to investigate cultural issues of death and dying in Hawaii. Five Asian American and Pacific Islander groups were included- Chinese, Filipino, Japanese, Native Hawaiians ad Vietnamese (Braun and Nichols, 1996). Findings included Chinese participants were less likely to discuss death as it is considered bad luck, Native Hawaiian's believe that talking about death will hasten its arrival, while some Japanese participants believe that planning for death was a good idea. Within cultural groups, the authors noted perspectives differed based on factors such

as education level and length of time in the U.S. Additional research on cultural diversity at the EOL indicate that many ethnic groups prefer not to be directly informed of life-threatening illnesses and prefer that an informally designated family member or consensus of family members make treatment decisions (Searight & Gafford, 2005). Results of the process evaluation indicated that staff were hesitant at times to engage in ACP discussions due to the complex nature of cultural considerations and desired additional training for their professional development. Lastly, the high regard of the palliative care department served as an unanticipated barrier. Each member of the palliative care team is perceived as a highly skilled expert in ACP, and staff would understandably defer to their experience, preferring to consult and have the palliative care team manage the ACP process.

Summary

The purpose of the project was to increase the documentation of EOL decisions (POLST/AD completion). The expected outcome was to increase AD and POLST completion by 15%. The actual outcome was 19.8% increase in AD completion and an 7.9% increase in POLST completion. A process (formative) evaluation was conducted throughout the project to document key stakeholder perception of the ACP intervention. Results during implementation indicate staff concerns over initiating ACP conversations and related feelings of anxiety and discomfort were sufficiently addressed. Project facilitators included a dedicated interdisciplinary team, a strong unit culture of EBP project implementation, and a palliative care department perceived as capable of delivering high quality, trusted care. Project barriers include a fluid work environment with a limited sample, a restricted implementation period of four months as well as psychosocial and cultural considerations.

Chapter 5. Discussion

Interpretation of Findings

The purpose of the project was to increase the documentation of EOL decisions (POLST/AD completion) with the goal of aligning care to patients' explicit wishes or "wanted care". The expected outcome to increase AD and POLST completion by 15% was an ambitious goal. The 19.8% increase in AD completion exceeded expectations. POLST completion increase of 7.9% was a modest but meaningful improvement and an encouraging trend. It is hoped that this trend will continue as staff familiarity and comfort with engaging in ACP discussions continues to grow. A limited four-month implementation phase may not have provided adequate time for staff to acclimate to the psycho-social aspects implicated by ACP discussions and for a sustained practice change to be demonstrated.

The process evaluation revealed robust qualitative data relating to the project pilot and implementation. During the pilot period, staff overwhelmingly indicated assistance in initiating ACP discussion as a desired area of improvement. Staff expressed anxiety, fear and discomfort to engage in ACP discussions and uncertainty regarding the appropriate approach to these encounters. During implementation, it appears that staff concerns over initiating ACP conversations and related feelings of anxiety and discomfort were sufficiently addressed since these were not identified as a significant theme in follow-up interviews. This was encouraging feedback providing evidence that the professional development offered during the project had met an ACP need specifically identified by staff. However, the goal of the project did not include an evaluation of staff training, and as such, limited conclusions can be drawn regarding staff content knowledge acquisition or satisfaction. While staff indicated they found the professional development opportunities, resources and mentorship to be helpful, they also expressed a desire

for ongoing ACP professional development whenever available. This indicated an ongoing staff desire for continued ACP engagement and training. Future projects may consider qualitative assessments specific to professional development efforts including pre- and post-tests of content knowledge and satisfaction scores.

The high regard of the palliative care team served as one of the greatest facilitators and unanticipated barriers to project implementation. Each member of the palliative care team is perceived as a highly skilled expert in ACP, and staff would understandably defer to their experience, preferring to consult and have the palliative care team manage the ACP process. It is anticipated that as staff develop their knowledge and skills over time there will be ongoing psychosocial acclimation to their role of ACP facilitators. With continued support from colleagues and management, there is confidence that staff will develop increased efficacy and comfort to engage in ACP conversations with patients and their families.

Hawaii represents a dynamic population with a diversity of people and cultures. ACP can be a sensitive topic, and it is not surprising that the implementation of an EBP project would be impacted by the community served. While the project was implemented with cultural sensitivity, the degree of cultural influence was not fully appreciated during project development. In many of our local populations, there is a particular aversion to discussing death and dying. Particularly, these discussions are thought to either be bad luck or could lead to a hastening of the process. Staff overwhelmingly recognized the importance of ACP and expressed a willingness to engage in these conversations. However, staff expressed a preference to capitalize on the established therapeutic relationship with patients to engage in ACP conversations rather than relying on or using the iPad. When engaging in sensitive ACP discussions, staff expressed that the use of videos for EOL decision-making seemed impersonal and often inappropriate under the circumstances. The ACP videos are perceived as a useful professional development

tool and supplement to ACP discussions, however, due to cultural preferences staff often prefer to engage in one-on-one conversations without the use of technology.

Implication/Recommendations

The American Association of Colleges of Nursing (AACN) Essentials of Doctoral Education for Advanced Practice (2006) was developed to delineate the foundational competencies and curricular elements core to all advanced practice roles and required of all Doctor of Nursing Practice (DNP) degree programs. The document outlines and defines the eight outcomes competencies required of all DNP graduates, regardless of specialty. These *DNP Essentials* are used to structure the following implications and recommendations section so that all essentials are demonstrated to be met in the production of the DNP EBP project.

Essential I: Scientific Underpinnings for Practice

The DNP is the terminal academic degree for nursing practice and is founded in scientific knowledge and inquiry. The complexity of nursing practice requires broad interdisciplinary knowledge across the natural and social sciences. Addressing ACP requires an integration of the biological, psychological and sociological sciences. Of particular interest, this project reveals the critical psychosocial competency necessary to engage in ACP discussion. Healthcare staff must feel they have adequate knowledge and emotional support to initiate ACP discussions, and patients and families must also be willing and able to participate. The implementation of the project was molded by the cultural context of the community served by the facility. Future ACP projects should integrate psychosocial theory into project development and should implement cultural competency training to align ACP needs to the environmental context.

Essential II: Organizational & Systems Leadership for QI & Economics

Creating sustainable change requires organizational and systems leadership. Facilitating ACP practice change at AHC involved the conceptualization of a new care delivery model within

the facility's existing organizational, political, cultural and economic structures. The process required advanced communication skills and a sensitivity to the diversity of cultures of both patients and staff. It is recommended that ongoing leadership in an EBP involve a strong investment in the core stakeholder group with a drive to assure their perspectives are integrated into project development and throughout implementation.

Essential III: Evidence-Based Practice/Translation Science

Beyond the discovery of new knowledge, a DNP graduate must serve as a leader for EBP and possess the skills to translate research into practice. An important step in this process is a critical appraisal of existing research and identification of gaps in the evidence for practice. Through extensive literature review, this project identified the need for expanded ACP within the existing program at AHC and utilized the best available evidence to enact a practice change. However, the foundation of an EBP is the ability to adjust the evidence-based intervention to the context of the practice environment. This requires a nuanced strategy of translating knowledge into practice involving ongoing communication and a willingness to adjust project parameters to meet stakeholder needs.

Essential IV: Information Systems/Technology

In the contemporary healthcare environment, technology and information systems are essential to the provision of high quality patient care. This ACP project required the application of new knowledge related to patient education technology and an assessment of its efficacy. In the context of AHC and the community it serves, the ACP education videos were thought to serve a beneficial role in engaging patients in ACP discussions. Their expanded use had the unexpected ancillary benefit as a professional development tool to increase staff knowledge and increase staff engagement in ACP discussions with patients and their families. A recommendation to future projects is to anticipate how information systems/technology may be

used in novel, unanticipated ways. This awareness allows expeditious adjustment of project parameters to align to the actual, rather than expected, use of the technology.

Essential V: Healthcare Policy & Ethics

Healthcare policy serves as the framework by which healthcare is delivered. At a governmental or organizational level, there is an ethical responsibility to develop policy which meets constituents' needs. When needs are unmet, the DNP student must be willing and prepared to design, advocate and implement new healthcare policy. The process of policy development must have an astute awareness of traditionally underserved populations, health disparities, and cultural sensitivity to the community served. The results of this project and lessons learned are likely to inform institutional policy regarding the use and implementation of ACP technology in the future.

Essential VI: Interprofessional Collaboration

In an increasingly complex healthcare environment, the specialized knowledge of multiple professions is required to deliver comprehensive, quality patient care. A team approach within healthcare specialties requires effective communication and collaborative skills. This project required the DNP student to lead an interprofessional team including physicians, RN's social workers and case managers to analyze the complex issue of ACP and institute an effective practice change.

Essential VII: Prevention and Population Health

Clinical prevention is a central role of the DNP graduate and involves health promotion and risk reduction/disease prevention. Population health concerns the health outcomes of specific populations including age, diagnosis and gender and requires a sensitivity to the psychosocial and cultural factors impacting healthcare. ACP aims to promote healthcare aligned to a patient's values and goals of medical care while preventing undesired healthcare interventions. The

development, implementation and evaluation of this project required the synthesis of concepts including psychosocial dimensions of staff and cultural diversity of the community served. However, the influence of psychosocial and cultural factors was not fully appreciated during project development. It is recommended that future projects involving significant psychosocial and culture components assess these impacts and integrate methods to address the possible facilitators and barriers to implementation.

Essential VIII: Advanced Nursing Practice & Education

In an increasingly complex healthcare environment, specialization in nursing practice is a necessity. Specialized domains allow for the mastering of complex areas of practice. ACP involves specialized training which includes strong content knowledge of EOL issues. Additionally, ACP requires the ability to develop and sustain therapeutic relationships with patience, their family and other healthcare professionals to assure optimal patient outcomes. A primary role of the DNP student during project development, pilot and implementation involved the guidance, mentorship and support of staff to achieve optimal ACP goals of patients.

Plans for Dissemination

An EBP is a collaborative endeavor by a dedicated team of stakeholders. A critical element of the EBP process is disseminating the results of a project. Dissemination demonstrates the value of stakeholder's time and provides valuable feedback for lessons gained and impact of their participation. Dissemination to the public ensures that knowledge is shared and impacts policy and practice beyond the parameters of the project alone. An evaluation report summarizing project outcomes and recommendations will be produced for AHC after project defense. The report may be disseminated to stakeholders at the organization by any means deemed appropriate by the project mentor including, but not limited to, e-mail, newsletter and/or AHC website. The Laulima/telemetry unit holds monthly all-staff meetings. The project results

may be shared at this meeting with an opportunity for staff to provide feedback. A poster will be prepared to share project results at scheduled public poster events at AHC and University of Hawaii School of Nursing and Dental Hygiene (SONDH) in the Spring semester. Further dissemination will include abstract submission at an annual nursing conference in the Fall and other public events as appropriate.

Summary

The expected outcome to increase AD and POLST completion by 15% was an ambitious goal. The 19.8% increase in AD completion exceeded expectations. POLST completion increase of 7.9% was a modest but meaningful improvement and an encouraging trend. It is hoped that this trend will continue as staff familiarity and comfort with engaging in ACP discussions continues to grow. A limited four-month implementation phase may not have provided adequate time for staff to acclimate to the psycho-social and cultural aspects implicated by ACP discussions and for a sustained practice change to be demonstrated. The eight DNP Essentials developed by the American Association of Colleges of Nursing (AACN) are used to outline the implication and recommendations of the project.

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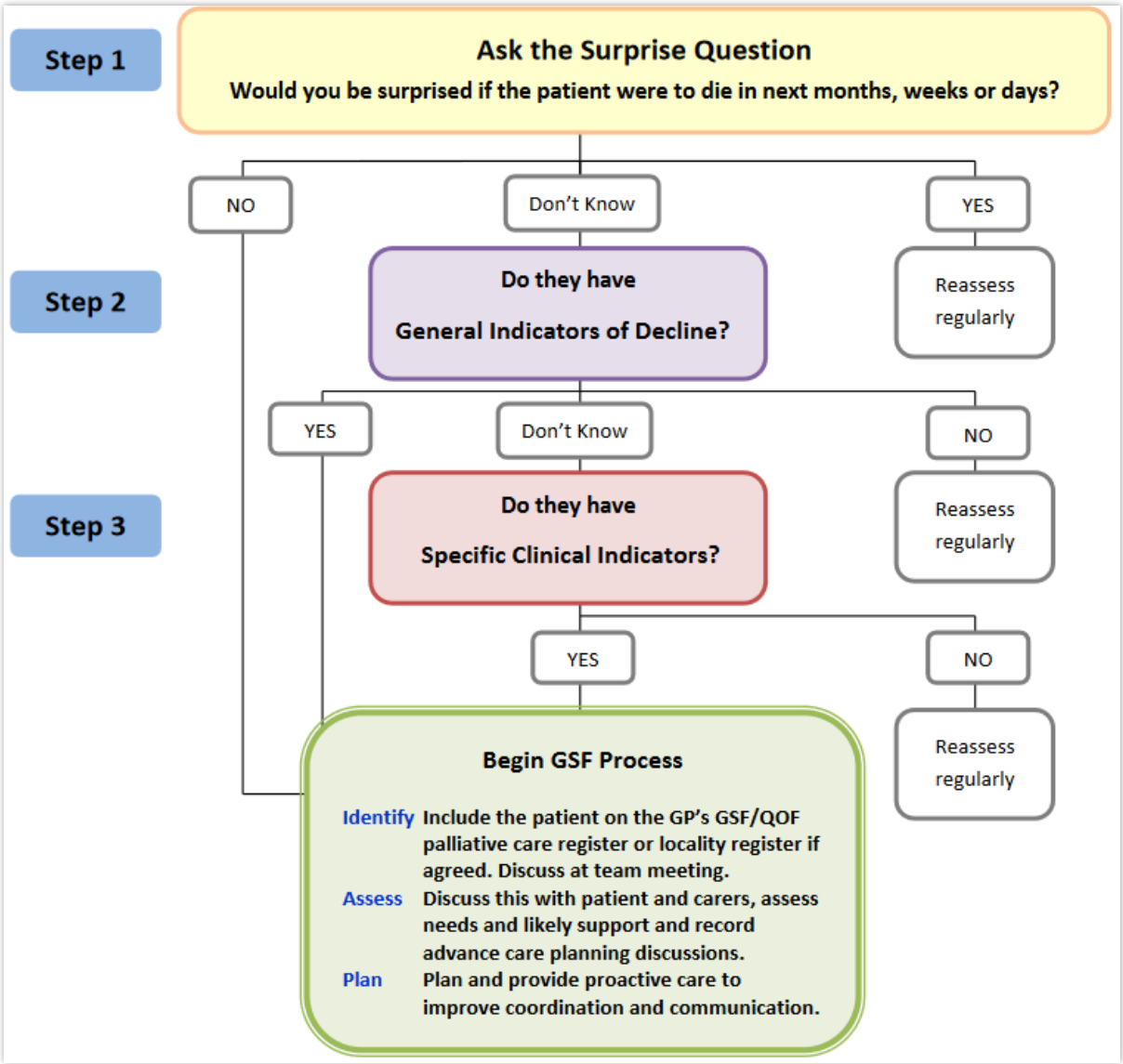
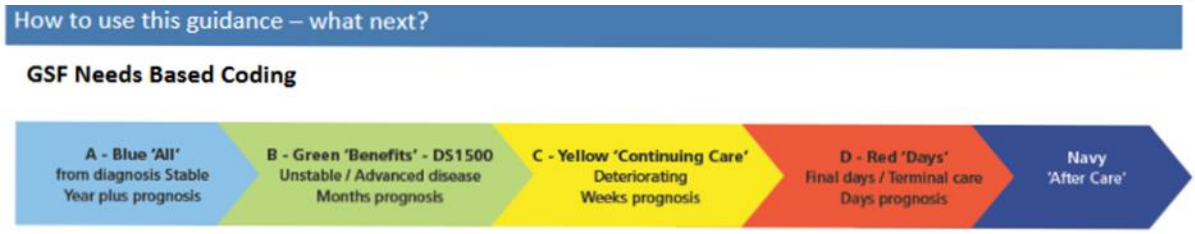
Appendix A

Gold Standard Framework Prognostic Indictor Guidance





Appendix B

Implementation timeline.

Tasks	2017						2018					
	J	A	S	O	N	D	J	F	M	A	M	J
Submit Chapter 1-3 to DNP Committee (7/11/17)												
Successful Proposal Defense (8/11/17)												
Brief Key Leaders & Staff												
Develop Marketing Products												
Prepare Instruments for Distribution												
Educate Staff												
Refine Existing Database												
Pilot (8/11/17-8/31/17)												
Implement Practice Change (9/1/17-12/31/17)												
Process Evaluation												
Collect Data												
Enter Data												
Analyze Data (Chapter 4)												
Interpret Data (Chapter 5)												
Oral Defense (OGE by 4/06/18)												
Graduation (05/12/18)												
Prepare & Submit Dissemination Products												

Appendix C

CDC stakeholder tool: Interest & engagement worksheet I

Name • ***P****rogram operations* • ***R****eceive services* • ***U****sers of evaluation findings*		Credibility *Increasing credibility of the evaluation*	Design *Helping with the design of the evaluation plan*	Implementation *Implementing the evaluation's intervention*	Advocate *Advocate for changes to implement evaluation findings*	Authorization *Fund/authorize action to implement evaluation findings*
P U	DNP Student		X	X	X	
P U	Director of Inpatient Nursing Services	X	X		X	X
P R U	Palliative Care Coordinator	X	X	X	X	
P R U	Palliative Care Program Director	X	X	X	X	X
P U	Case Management and Social Work Manager	X	X		X	
R U	Inpatient Staff RN/MD/CM/SW			X		
R	Patients					

Appendix D

CDC stakeholder tool: Interest & engagement worksheet II

Name	Program Description	Evaluation Question	Data Collection	Data Management	Data Analysis	Dissemination
DNP Student	X	X		X	X	X
Director of Inpatient Nursing Services	X	X				X
Palliative Care Coordinator	X	X	X	X		X
Palliative Care Program Director	X	X				X
Case Management and Social Work Manager	X	X				X
Inpatient Staff (RN/MD/CM/SW)			X			X
Patients						X